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UNITED WE STAND – DIVIDED WE FALL: A STANDARD MODEL OF UNIT COHESION

MIKAEL SALO

UNITED WE STAND – DIVIDED WE FALL:

A STANDARD MODEL OF UNIT COHESION

Mikael Salo

DISSERTATION

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ABSTRACT

Research on unit cohesion has shown positive correlations between cohesion and valued outcomes such as strong performance, reduced stress, less indiscipline, and high re-enlistment intentions. However, the correlations have varied in strength and significance. The purpose of this study is to show that taking into consideration the multi-component nature of cohesion and relating the most applicable components to specific outcomes could resolve much of the inconsistency. Unit cohesion is understood as a process of social integration among members of a primary group with its leaders, and with the larger secondary groups of which they are a part. Correspondingly, included in the framework are four bonding components: horizontal (peer) and vertical (subordinate and leader) and organizational and institutional, respectively. The data were collected as part of a larger research project on cohesion, leadership, and personal adjustment to the military. In all, 1,534 conscripts responded to four questionnaires during their service in 2001-2002. In addition, sociometric questionnaires were given to 537 group members in 47 squads toward the end of their service.

The results showed that platoons with strong primary-group cohesion differed from other platoons in terms of performance, training quality, secondary-group experiences, and attitudes toward refresher training. On the sociometric level it was found that soldiers who were chosen as friends by others were more likely to have higher expected performance, better performance ratings, more positive attitudes toward military service, higher levels of well-being during conscript service, and fewer exemptions from duty during it. On the group level, the selection of the respondents' own group leader rather than naming a leader from outside (i.e., leader bonding) had a bearing not only on cohesion and performance, but also on the social, attitudinal, and behavioral criteria.

Overall, the aim of the study was to contribute to the research on cohesion by introducing a model that takes into account the primary foci of bonding and their impact. The results imply that primary-group and secondary-group bonding processes are equally influential in explaining individual and group performance, whereas the secondary-group bonding components are far superior in explaining career intentions, personal growth, avoidance of duty, and attitudes toward refresher training and national defense. This should be considered in the planning and conducting of training. The main conclusion is that the different types of cohesion components have a unique, positive, significant, but varying impact on a wide range of criteria, confirming the need to match the components with the specific criteria.

TIIVISTELMÄ

Väitöstutkimus esittelee ryhmäkiinteyttä ennustavat tekijät ja osoittaa, miten kiinteys on yhteydessä henkilöiden asenteisiin ja käyttäytymiseen sekä joukon suorituskykyyn. Tutkimus kokoaa ryhmän ja organisaation eri tasoilla olevat kiinteyttä selittävät tekijät teoreettiseksi malliksi, joka on hyödynnettävissä ryhmien ja organisaatioiden kiinteyttä kehitettäessä ja tutkittaessa. Mallin perusteella kiinteys jakaantuu neljään tasoon: vertaisten välinen kiinteys, johtajan ja alaisten välinen kiinteys, organisatorinen kiinteys ja institutionaalinen kiinteys. Lisäksi viidentenä tasona on mahdollista tarkastella kansallista kiinteyttä. Kukin taso jakautuu kahteen ulottuvuuteen: affektiiviseen, emotionaaliseen kiinteyteen sekä instrumentaaliseen, ryhmäjäsenyyden tavoitteisiin liittyvään kiinteyteen.

Tutkimuksen aineisto koostuu 1534 varusmiehen vastauksista, jotka kerättiin vuosina 2001-2002. Yksilöiden sitoutumista ryhmään ja sotilasorganisaatioon arvioitiin kyselyiden perusteella, jotka pidettiin (a) palveluksen ensimmäisenä päivänä, (b) peruskoulutuskauden lopulla sekä (c) palveluksen lopulla. Lisäksi ennen kotiuttamista toteutettiin ryhmien ja joukkueiden (d) sosiometrinen tutkimus, johon osallistui 537 varusmiestä 47 ryhmästä. Kyselyiden lisäksi aineistoa täydennettiin (e) siviili- ja sotilasarkistoista kerätyillä varusmiesten taustatiedoilla ja palveluksen onnistumista kuvaavilla tunnusluvuilla.

Tutkimustulokset osoittavat, miten jokainen kiinteyden komponentti on yhteydessä omalla erityisellä tavallaan ihmisten asenteita ja käyttäytymistä mittaaviin muuttujiin. Kavereiden välinen sosiaalinen kiinteys tukee yksilöä ja vahvistaa ryhmää selviytymään myös vaikeuksien alla. Johtajien ja alaisten välinen kiinteys kannustaa ponnistelemaan ryhmän tavoitteiden saavuttamiseksi. Samalla johtajan on mahdollista linkittää ryhmän jäsenet organisaation tavoitteisiin. Organisatorinen kiinteys parantaa työhyvinvointia, vähentää poissaoloja ja lisää organisaation tuottavuutta. Institutionaalinen kiinteys sitouttaa henkilön organisaatioon sekä luo merkityksen tunnetta päivittäiselle työlle. Tulosten keskeisin johtopäätös on, että jokaisella kiinteyden komponentilla on merkitystä ryhmään/organisaatioon sitovana voimana.

Väitöstutkimus täydentää aikaisempaa tutkimuskirjallisuutta tarjoamalla kokonaisvaltaisen, eri tutkimusperinteet yhdistävän näkökulman ryhmäkiinteyteen. Tästä syystä kirjaa on mahdollista hyödyntää psykologian, sosiaalipsykologian, sosiologian ja johtamisen tutkimuksessa sekä organisaatioiden johtamisessa ja henkilöstösuunnittelussa kiinteyden, työtyytyväisyyden ja organisaation tuottavuuden lisäämiseksi.

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This study is deeply influenced by experiences I had in 2004 and 2005 when I worked as a research social psychologist at the U.S. Army Research Institute for the Behavioral and Social Sciences. My supervisor, Dr. Guy L. Siebold, and I had a daily one-hour conversation in which we discussed the theoretical aspects and the results specific reports or papers. These discussions gave me a unique opportunity to learn about the theories and methods used in research on cohesion, and taught me more than I had ever learnt from books and seminars. Moreover, Dr. Siebold continued his guidance and inspiring encouragement even when the assignment ended. This study would have never seen daylight without his support. I express my deepest gratitude to him for his profound expertise and his endless ability to find new ideas to improve the quality of this study. Moreover, it was great privilege to work at the U.S. Army Research Institute, where the professionalism, motivating teamwork, and the extremely positive working atmosphere help researchers achieve great results.

I extend my warmest thanks to my Israeli colleagues. In 2007, the Israeli Ministry of Foreign Affairs granted me a research scholarship that gave me the opportunity to conduct research at the University of Haifa. Studying at the Department of Psychology was of personal value to me thanks to the insightful guidance of Professor Popper and our demanding goals that made us work hard and produce several papers in a relatively short period of time. The diversity of the theoretical issues we explored increased my understanding of organizational psychology, and particularly of group

leadership and vertical cohesion. I owe Professor Popper my sincere gratitude for his excellent advice and leadership.

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I am deeply indebted to my supervisors and colleagues, as well as to my friends, parents, and significant others. Their support and solid trust in what was sometimes an overwhelmingly exhaustive research project made it considerably easier for me to conduct this study.

In the end, the person who supported me most through all the trials and tribulations was my muse. I wish to express my love to my wife, Kirsi, who has always been there when I have needed encouragement and direction in my life. I am so fortunate that you are sharing your life with me.

Espoo, July 4th, 2011 Mikael Salo

CONTENTS

ABSTRACT 3

TIIVISTELMÄ 4

ACKNOWLEDGEMENTS 5

CONTENTS 7

LIST OF ORGINICAL PUBLICATIONS 11

1 INTRODUCTION 13

2 UNIT COHESION AS A RESEARCH TOPIC 17

2.1 The Origin of the Concept 17

2.2 Theoretical Components of Cohesion 20

2.2.1 Cohesion as an Inter-Personal Attraction and a Positive Attitude Towards the Group 20

2.2.2 Social Cohesion vs. Task Cohesion 22

2.2.3 Social Cohesion and Task Cohesion in Primary Groups 26

2.2.4 Peer and Leader-Subordinate Cohesion 30

2.2.5 Peer and Leader-Subordinate Cohesion in Primary Groups and their Affective and Instrumental Dimensions 31

2.2.6 Cohesion in Primary and Secondary Groups 33

2.2.7 Organizational Cohesion as the First Level of Secondary-Group Cohesion 35

2.2.8 Institutional Cohesion as the Second Level of Secondary-Group Cohesion 36

2.2.9 National Cohesion 39

2.2.10 Social Identities in Nested Organizations 43

2.2.11 Commitment in Nested Organizations 47

2.3 The Components of Unit Cohesion: An Overview 51

3 THE TOTAL FIELD OF FORCES - PREDICTORS AND MODERATORS OF UNIT COHESION 55

3.1 Individual Characteristics Associated with Unit Cohesion 56

3.2 Structural Properties of a Group that Support Unit Cohesion 63

3.3 Social Experiences in Primary Groups 71

3.4 Leadership and Social Integration 87

3.4.1 Leadership Characteristics and Behavior in a Cohesive Group 87

3.4.2 Leaders and Linking-pin Effects 96

3.5 Organizational Experiences in Secondary Groups 100

4 THE INFLUENCE OF THE COHESION COMPONENTS ON THE KEY CRITERIA 123

4.1 Attitudinal Content and Variation 124

4.2 Behavioral Content and Variation 125

5 THE AIMS OF THE STUDY AND THE METHODS USED 137

5.1 The Research Purpose and the Contributions of the Articles 137

5.2 Sample 142

5.3 Questionnaire Administration 143

5.4 Measures 145

6 RESULTS 159

6.1 Variables Impacting Peer Group Cohesion 159

6.2 The Significance of Vertical Cohesion and the Linking-pin Function 160

6.3 Beyond Training: The Role of Cohesion in Maximizing Group Performance 163

6.4 Sociometric Choices and Group Cohesion 165

6.5 The Relation Between Group-Level Characteristics and Group Cohesion 166

6.6 The Structure of Unit Cohesion 167

6.7 The Essence of the Cohesion Components and their Impact on the Key Criteria 169

6.7.1 Predictors of the Components 169

6.7.2 Cohesion Components and Criteria 173

6.7.3 Inconsistency in the Cohesion Components 176

7 DISCUSSION 179

7.1 Main Results 179

7.2 Methodological Limitations 184

7.3 Theoretical Implications 189

7.4 Practical Recommendations for Improving Social Integration in Small Units 200

7.5 Concluding Remarks 206

REFERENCES 209

APPENDICES 237

Appendix 1 Survey Questionnaires 237

Appendix 2 The Main Factors of the Questionnaires at the End of Service 250

ORIGINAL PUBLICATIONS

I Variables Impacting Peer Group Cohesion in the Finnish Conscript Service

II Import of Vertical Cohesion and the Linking Pin Function in the Military

III Beyond Training Alone: The Role of Cohesion Maximizing Group Performance

IV The Relation Between Sociometric Choices and Group Cohesion

V The Relation Between Group-Level Characteristics and Group Cohesion

VI The Structure of Military Cohesion: Components, Predictors, and Outcomes

TABLES AND FIGURES

Table 1 Norms Moderate the Effect of Cohesion on Performance 134

Table 2 Measures of the Cohesion Components 150

Table 3 Predictors of the Cohesion Components 152

Table 4 Measures of the Cohesion Outcomes 155

Table 5 Sociometric Indices 157

Table 6 Correlations among the Cohesion Components 170

Table 7 Predictors of Peer Bonding 171

Table 8 Predictors of Leader Bonding 171

Table 9 Predictors of Organizational Bonding 172

Table 10 Predictors of Institutional Bonding 172

Table 11 Correlations Between the Bonding Scales and the Criterion Scales 173

Table 12 Multiple Regression of the Bonding Scales on Performance 174

Table 13 Multiple Regression of the Bonding Scales on the Attitudinal Criteria 175

Table 14 Criteria Means Based on Inconsistency in the Cohesion Components 178

Table 15 The Association Between Commitment and Control 195

Figure 1 Outline of the Study 16

Figure 2 Components of Unit Cohesion 52

Figure 3 The Bayesian Dependency Model at the End of Service 148

Figure 4 The Standard Model of Unit Cohesion 190

LIST OF ORIGINAL PUBLICATIONS

The results of this thesis have been published in the following original articles. These articles are reproduced with the kind permission of their copyright holders: Journal of Political and Military Sociology (I), Suomen Sotatieteellinen Seura (II–III), U.S. Army Research Institute for Behavioral and Social Sciences (IV–V), and Peter Lang (VI).

I Salo, M., & Siebold, G. L. (2008). Variables impacting peer group cohesion in the Finnish conscript service. *Journal of Political and Military Sociology*, *36*(1), 1-18.

II Salo, M. (2008). Import of vertical cohesion and the linking pin function in the military. *Tiede & Ase*, *66*, 45-67.

III Salo, M. (2006). Beyond training alone: The role of cohesion maximizing group performance. *Tiede & Ase*, *64*, 160-174.

IV Salo, M. (2006). *The relation between sociometric choices and group cohesion*. Technical Report 1193. Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. http://www.hqda.army.mil/ari/pdf/TR_1193.pdf

V Salo, M. (2006). *The relation between group-level characteristics and group cohesion*. Research Note. Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. http://www.hqda.army.mil/ari/pdf/RN_2007-01.pdf

VI Salo, M. & Siebold, G. L. (2007). The structure of military cohesion: Components, predictors, and outcomes. In H. Annen & W. Royl (Eds.), *Military pedagogy in progress*, *10*, pp. 213-224. Studies for Military Pedagogy, Military Science & Security Policy. Frankfurt am Main, Germany: Peter Lang.

The publications are referred to in the text by their roman numerals.

Our task is to make the world worth of living

1 INTRODUCTION

Cohesion is a useful concept for getting a handle on essential developmental and behavioral processes in groups and small units. The power of cohesion is pervasive – it regulates individual and group behavior and supports several outcomes, as demonstrated in this study. The importance of unit cohesion is paramount in teams and groups in which (a) work and social interaction are intense and cooperative, (b) leadership has a direct influence on everyday life, and (c) training, learning, and performance are focused on task-related skills and group performance. The value of unit cohesion is evident in any team, group, or organization in which people act together, and whenever interaction, coordination, teamwork, and mutual support are needed for achieving socially or organizationally prestigious goals.

Unit cohesion has received much research attention in recent decades. One reason for this is the desire among organizations and managers to design power structures and personnel policies in a manner that enhances performance (Evans & Dion, 1991; Gully, Devine, & Whitney, 1995; Mullen & Copper, 1994; Oliver, 1988; Oliver, Harman, Hoover, Hayes, & Pandhi, 1999), reduces the effects of stress (Griffith, 1987, 2002; Griffith & Vaitkus, 1999), and supports essential outcomes such as high job satisfaction (Oliver et al., 1999), high motivation (Gully et al., 1995), low turnover (Griffith, 2002), minimal deviant behavior (Holz, 1986; Janis, 1972; Oliver et al., 1999), and unit effectiveness (Siebold & Lindsay, 1994, 1999). Given such positive effects on several social, psychological, and behavioral outcomes, cohesion research and programs are beneficial to a wide range of organizations.

This study describes the basic elements of social integration in terms of unit cohesion. Theoretically, this process involves notions that are intertwined, such as cohesion, commitment, and social identity. However, such notions are overly used for mixing reasons and contexts (cf. the debate and discussions in King (2006, 2007) and Siebold (2007) as well as MacCoun, Kier, & Belkin (2006) and Wong (2006)). Although there are detailed conceptualizations and developed measures of cohesion (Griffith, 1988; Siebold & Kelly, 1988a, 1988b), there is no definition that is universally accepted (e.g., Cota et al., 1995; Mudrack, 1989). Some researchers utilize only certain aspects, neglecting the full range of the phenomenon. In short, previous conceptualizations and related research designs lack uniformity and consistency. Therefore, there is a need for a study that seeks a comprehensive approach to cohesion, discusses different perspectives and overlapping theories, and offers a model that unites different frameworks.

The current study outlines the development of the research on cohesion, identifies the main conceptualizations, evaluates the previous literature, offers a coherent model that can be utilized in future cohesion-related

studies, and comprehensively describes the factors that affect unit cohesion. The overall aim is to facilitate research on cohesion in the long run through the illustrated conceptualizations and their predictors and outcomes.

The military group was selected as the context for this study on cohesion because inherent in the military setting is the full set of cohesion components required for the analysis, which does not apply to other types of more informal groupings. Specifically, studying military organizations facilitates the investigation of (a) social dynamics and leadership, (b) official work or training criteria (e.g., team performance), (c) task-related communication, coordination, and cooperation, (d) climate and management, (e) the impact of policy changes on work programs, (f) personal commitment, and (g) possible deviant behavior, all of which can be studied within the organizational setting and context (e.g., Siebold & Lindsay, 1994). For the social sciences, military units serve as "real world" laboratories in which people are placed in informal and formal groups comprising peers and leaders, engaged to fulfill missions, and socialized to being part of a hierarchical organization for an extended period of time (Siebold, 1996).

A military unit is a good example of an organization with formal groups, group-centered activities (Zaccaro, 1991), differentiated roles, skills, and knowledge, and integrated performance efforts (Zaccaro, Gualtieri & Minionis, 1995). The same status and requirements, the shared time and space, the constant face-to-face interaction, the frequent passive contact, the shared tasks and social knowledge, and the group incentives encourage people to stick together. In such situation, cohesion is of specific value in terms of personal well-being and group dynamics and performance.

This study focuses on groups as part of a larger organizational context. An organizational design sets the climate and atmosphere, the working conditions, and the practices that control the task requirements, enforce allowed, sanctioned and embraced behavior, and form group-related expectations and responsibilities in the unit. A closed institution such as the military is a unique example of an organizational setting in which intense living conditions, a strict regimentation and command structure, encompassing surveillance, and personalized attention to standards foster the creation of primary-group norms that are compatible with secondary-group principles. The military constitutes a context that unites people in a common mission, gives purpose to daily activities, group training and performance, and creates the shared group experiences that promote unit cohesion. The overall task of military training is to create small, intact, cohesive units, which makes the group processes and programs even more salient than in other types of units. Moreover, the unit mission and group goals intensify the valence of effective group performance, drawing the attention from personal performance to teamwork. Constant, pervasive observation and evaluation by leaders combined with influential leadership strengthen the group and foster all levels and dimensions of unit cohesion. With regard to methods, the military context provides a wide range of

groupings with different properties in terms of tasks, structure, norms, daily activities, and branches that support the generalization of the findings. Studying cohesion in a large, nested organization (e.g., a brigade) in which the upper groupings establish particular group standards and behavior for the lower ones, allows the examination of interrelations between hierarchical groups and their cohesion.

The structure of the work is as follows (Figure 1). The second chapter follows the development of the research on group cohesion. It provides different conceptualizations of small-unit cohesion, distinguishing, for example, between social and task cohesion as well as between horizontal (peer) and vertical (leader-subordinate) cohesion. The chapter ends with an overview of unit cohesion and presents a figure that summarizes the various components and how they relate to one another. The third and fourth chapters address a wide range of predictors, moderators, and criteria of cohesion. The fifth chapter presents the research questions, the aims of the individual articles, and basic information about the sample, the questionnaire administration, and the measures. Chapter 6 summarizes the results of the series of studies, and the final chapter discusses the main results, states some methodological concerns, and assesses the potential applications of the model in practice. Included in the discussion is a figure that illustrates the standard model of cohesion and the practice of uniting forces in an organization.

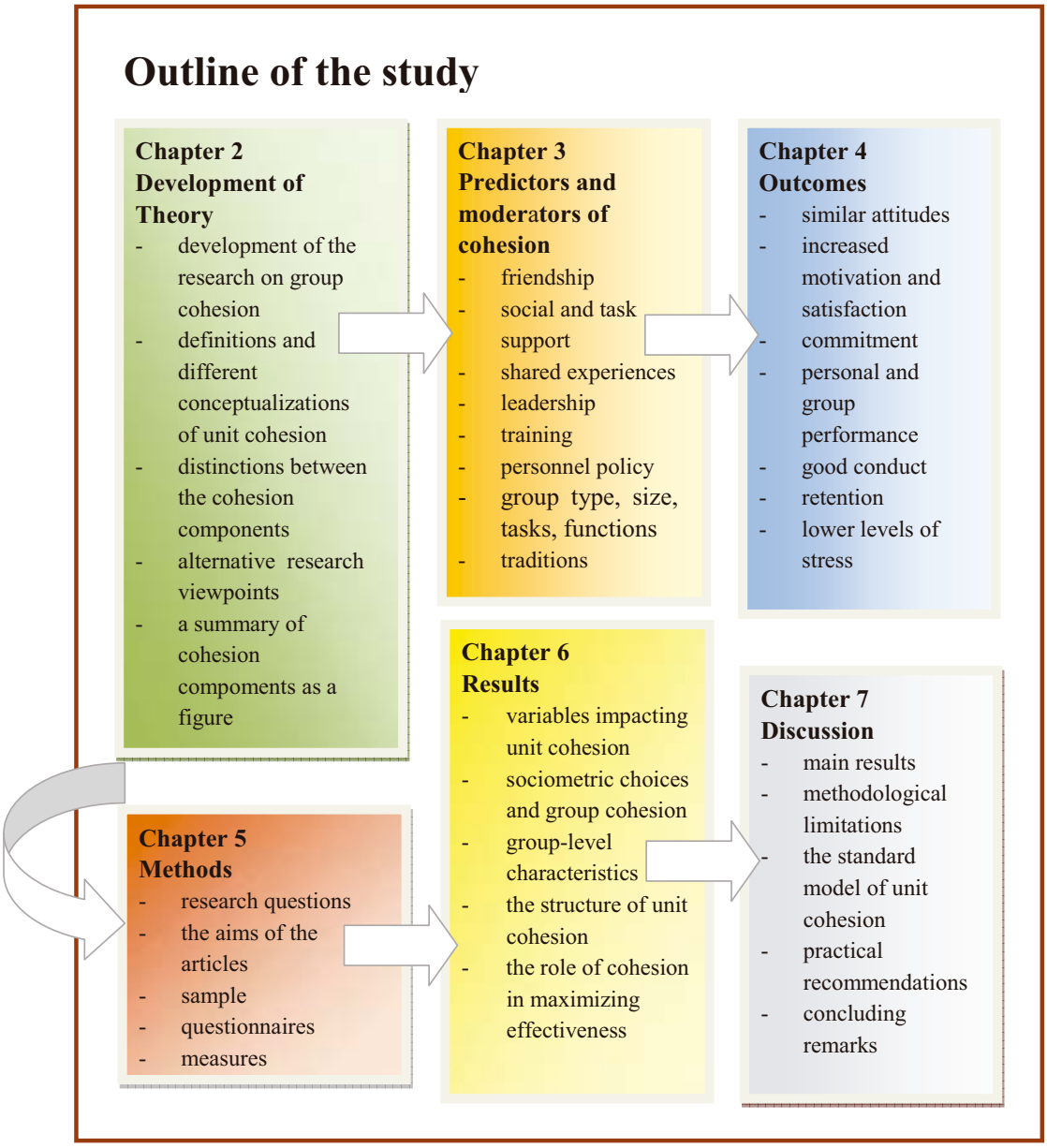

Figure 1 Outline of the Study

2 UNIT COHESION AS A RESEARCH TOPIC

2.1 THE ORIGIN OF THE CONCEPT

The roots of primary-group research go back to Cooley (1909/1962), who was one of the first to describe the binding forces in a group. His definition of primary groups as "characterized by intimate face-to-face association and cooperation" gives a feeling of unity involving sympathy and mutual identification, and the structuring of the primary aims of the individual towards the common goals (Cooley, 1909/1962, p. 23). Moreover, Cooley describes one feature or property of the primary group as "we-ness", which in the current literature indicates the group members' shared social identity, identification with the community, and feelings of belonging (McClure & Broughton, 1998).

A primary group provides a structure in which cohesion can develop and exist. A group is defined as "a dynamic whole" (Lewin, 1948, p. 84), or an entity formed by "two or more people in psychic interaction" (Gross & Martin, 1952, p. 552), "who perceive themselves as belonging to a group" (Bales, 1950, p. 33; Smith, 1945, p. 227), and influence and are influenced by one another (Shaw, 1976). Basically, frequent interaction, association, and cooperation build up a social category named a primary group (Ashforth & Johnson, 2001; Harinen, 2000), signifying the smallest interacting collection of people who share a social identity (Turner, 1982), a sense of entity, belonging, and interdependence (McClure & Broughton, 1998). In sum, personal identification and a sense of belonging are the prerequisites of group membership that consequently influence group cohesion.

Cohesion varies based on the type of group, and particularly as a function of its formal and informal characteristics. Formal groups are formed to carry out certain tasks or purposes, whereas their informal structure serves to (a) establish norms, (b) maintain cohesion in formal organizations, and (c) build integrity and self-respect (Schein, 1965). In every formal organization there is an informal structure (Selznick, 1980) in which personalized relationships, intense interaction, and shared common values and perceptions direct the behavior (Johns et al., 1984). As Hogg (1992) puts it, intergroup relations define informal primary groups, and conversely the groups to which one belongs define the person. In essence, the group in which a person has his or her valuable intergroup relations establishes his or her most salient primary group.

A group in which the other members share one's opinions and attitudes is known as a reference group (Festinger, 1950). On account of the valued reference point (Shibutani, 1968), this group generates a platform from which values and ideas are passed on and social control is exercised (Johns et al., 1984). As a result, the reference group becomes the locus of commitment

and a source of gratification and social support (Bartone & Kirkland, 1991), and group membership provides a source of self-esteem and recognition (Henderson, 1985). The social evaluation of the group members shapes the individual's self-concept (Brown, 2000). The other members constitute the psychological basis for the assessment of feelings and behavior (Katz & Kahn, 1978), and the individual is bound by the expectations and needs of his or her fellow group members (Henderson, 1985). Consequently, a primary group serves as the main reference for the service member's attitudes, performance, and behavior.

The term cohesion follows the legacy of Kurt Lewin's theory of group dynamics, and Moreno's methodological innovations in the field of sociometry in the 1930s and 1940s. Kurt Lewin (1935) launched the *field theory* and introduced group dynamics as representing the concept of fluctuating energies, forces, and changes in the structure, processes, and properties of the group. Lewin believed that group life consisted of forces that brought about and resisted change in the group (Lewin, 1947), including "cohesive and disruptive forces" (French, 1941, p. 369; Lewin, 1948, p. 191) that drew someone either into the group and kept him or her inside, or drove him or her away from it (Lewin, 1948; Libo, 1953). These forces assume positive or negative valency, with direction, strength, and a point of application (Lewin, 1935), and knowing their total structure reveals the *life space* of the group.

Sociometry was developed by Moreno (1934), and it was widely used after World War II. The unifying implicit research question in sociometric studies concerned why and to what degree people stuck together in a group (Moreno, 1943). The aim was to explore "the degree of cohesion" based on the group's interpersonal structure (Moreno & Jennings, 1945, p. 24). In practice, the binding forces were operationalized as interpersonal attraction among the members in terms of sociometric measures (Moreno, 1934; Northway, 1967). The development of sociometric measures encouraged researchers to focus on particularly emotional/affective bonds among group members. Although there were critics of this approach to cohesion, which focused only on interpersonal bonds (Gross & Martin, 1952), attraction-based definitions gained a foothold in the literature. As a consequence, the early studies on cohesion encouraged perceptions based on the number of ingroup choices relating to the social activities of the group in subsequent research.

Festinger and his colleagues (1950) and Shils and Janowitz (1948) boosted the research on cohesion in small units in calling attention to the positive effects of group membership. Shils and Janowitz studied the impact of allied propaganda on Wehrmacht solidarity in World War II. In particular, they discovered the importance of primary groups by studying disintegration among German soldiers (Shils & Janowitz, 1948). They found, for example, that a high degree of primary-group integrity protected against desertion and surrender. On the other hand, the failure to assimilate into the life of the primary group was the most significant factor explaining why soldiers

deserted in war. However, the majority of German soldiers were effectively integrated into their primary groups, and therefore they stood their ground despite certain destruction. Overall, this research suggested that social integration and leadership quality were the best assets for sustaining organizational integrity and fighting effectiveness in the unit (ibid.).

According to Shils and Janowitz (1948), the stability and military effectiveness of the primary group are affected by the strength of its nucleus, or "hard core" (p. 286). The presence of a few energetic and excellent men who are of one mind provides models for others and elevates the process of identification. Moreover, primary-group integrity and supporting formations fulfill personal needs, offer esteem and affection, equip the person with a sense of power, and consequently, minimize self-concern and help people to form an effectively functioning primary group (ibid.). The degree of integrity (i.e., cohesiveness) is further strengthened by (a) physical closeness and group stability, (b) physical survival and the satisfaction of social and physical needs, (c) an explicit and implicit code of soldierly honor, (d) skillful, respected leaders, (e) identification with the stern authority, and (f) jointly experienced gratification (ibid.).

Festinger and his colleagues conducted pioneering studies in order to understand "the total field of forces" that keeps members in the group (Festinger, Schachter, & Back, 1950, p. 164; Schachter, 1951, p. 191). They considered cohesion the product of "the resultant of all the forces acting on the members to remain in the group" (Festinger, 1950, p. 274). Theoretically, this definition of group cohesion derives from Lewin's field theory and the life space of acting forces. Interestingly, it also resembles Cooley's description of a *solidaire* group, referring to "a social group in which there is a fundamental harmony of forces resulting in effective cooperation" (1909/1962, p. 330).

Three major components of uniting factors emerged in Festinger and his colleagues' studies: (a) the prestige of the group, (b) the attractiveness of the members, and (c) the activities in which the group engaged (Festinger, 1950; Back, 1951). These forces provided the glue that kept the members together (Schachter, Ellertson, McBride, & Gregory, 1951). The main reason for examining the relation between acting forces and cohesion was that as the uniting forces strengthen, the pressure to communicate also increases, which results in more intense discussions revealing the opinions of other group members, and possible conflicts. Therefore, a cohesive group settles disagreements more effectively and attains consensus more easily compared to a non-cohesive group, and thus exerts more influence on its members' attitudes and behavior (Back, 1951; Festinger, 1950).

Festinger's example influenced several studies (Cartwright & Zander, 1953; Gross & Martin, 1952; Schachter, 1952; Libo, 1953; Schachter et al., 1951), the aim of which was to identify the forces that could comprise an index of attractiveness to the group. The index was based on a combination of choices in the task or social-emotional areas of group life. Unfortunately,

this comprehensive and compact view of cohesion did not last long, and the emphasis on interpersonal attraction misled researches into utilizing narrow conceptualizations and basing their studies on mutual positive attitudes toward group membership.

2.2 THEORETICAL COMPONENTS OF COHESION

2.2.1 COHESION AS INTER-PERSONAL ATTRACTION AND A POSITIVE ATTITUDE TOWARDS THE GROUP

Festinger's original definition of the total field of forces assesses the attractiveness of the group, its members and goals. Although the original definition of binding forces was more intricate, the example of the measures and studies Festinger and his colleagues introduced affected the later research on small groups (Zaccaro & McCoy, 1988), in which cohesion was unidimensionally matched with attractive group membership (Back, 1951). Furthermore, Schachter (1951) argued that increased cohesion had identical consequences irrespective of the source (e.g., friendship, the valence of activities, or group prestige). This argument corroborated the approach to cohesion as a unitary concept (Back, 1951; Schachter, 1952). As a result, the subsequent definitions labeled it as attraction to a group (Mudrack, 1989) in which the group members' attraction, friendship, and mutual positive attitudes form the basic ties that bind (e.g., Knouse, 1998; Lott & Lott, 1965).

Gross and Martin (1952) comprehensively criticized the unitary conceptualization of cohesion because the ingroup friendship choices represented only one dimension of the innumerable factors of the total field of forces operating on group members. In fact, they did not condemn the original definition ("the total field of forces which act on members to remain in the group"; Festinger et al., 1950, p. 164) but contended that the model and the measures should be in balance, and basically more multifaceted than in Festinger's research on housing. In brief, the argument was that the group may be attractive to its members but for different reasons (Gross & Martin, 1952). Therefore, these diverse factors should be theoretically described and measured in order to attain a more comprehensive conceptualization of cohesion.

Lott and Lott (1965) proposed *mutual positive attitudes* as the primary reason for cohesion in the group. Positive attitudes relate to attraction to the group in that they both involve the affective functions of group membership. As Bonner (1959, p. 66) argues, minimal attraction to the group is essential because otherwise "a group cannot exist at all." This may be true, at least in groups with a social and an emotional orientation. However, interpersonal

attraction is not a necessary condition for group formation in certain sports and work settings, or in closed institutions in which the group forms around the specific abilities of the members and not solely based on their attraction to one another (Carron, 1982). The members of such groups may work and live together even though they do not like each other because they need one another in order to attain their goals.

The main theoretical drawback to relying only on interpersonal attraction as a basis for cohesion is that it lies on the individual level of analysis whereas cohesion refers to a group property (Carron & Brawley, 2000; Dion, 2000). Therefore, attraction-related measures do not adequately cover the forces that keep the group intact. For example, in sports and work groups the goals and objectives direct the group behavior towards productive work and effective performance, which in turn may explain the members' united effort and why they remain in the group (Carron, 1982). This suggests that cohesion has a more complicated structure and is not thoroughly explained in terms of attraction-based binding forces (ibid.). A straightforward alternative, it was argued, would be to focus on the group's resistance to disruption. Specifically, the literature suggests that the community of experience in a primary group serves as a cohesive force protecting against its disintegration (Shils & Janowitz, 1948) and strengthening its endurance in the face of disruptive forces (Henderson, 1985). The most well-known definitions from this perspective describe cohesion as "the capacity of the primary group to resist disintegration" (Shils & Janowitz, 1948, p. 281), or as "the resistance of a group to disruptive forces" (Gross & Martin, 1952, p. 553).

Exchange theory from the 1960s offered an alternative approach to conceptualizing the motives behind united effort in a group. The main difference from the attraction-based approach is that exchange theory focuses on human preferences and the rewards attainable through group membership, and on whether emotional relationships and instrumental benefits are rewarding. When the members are satisfied in these terms, the group binds them together. Thus, the value of the activities, sentiments, and rewards available to members establishes the degree of cohesion of the group (Homans, 1961, 1980).

Through the lens of exchange theory, group attraction is based on an assessment of the current and future benefits of the social relationships, possible alternatives, and the comparison level in the given situation (Fine & Holyfield, 1996; Grice & Katz, 2005a; Secord & Backman, 1964; Yoon & Lawler, 2005). The potential member might assess, for example, whether he or she would find better or worse rewards, career options, payments, status, prestige, challenges, or leadership experiences in that group than in other groups. Conversely, group attraction is supported when the reward-cost estimation exceeds the comparison levels of the alternatives (Shaw, 1981). From this perspective, personal reliability and solidarity with the group, and loyalty to the other members are exchanged for specific attainable rewards.

Consequently, the person believes that he or she and the group have mutual obligations. This belief creates a psychological contract with the unit which further binds the person to group membership (Rousseau, 1989).

In terms of exchange theory, group membership may be valuable because it offers a secure and supportive network in which people can learn to know one another. Given the shared experiences, trusting relationships, the common set of expectations, and the person's ability to influence shared attitudes, it is cost-efficient to continue membership in the group instead of initiating a new formation and socialization process in another group (Yoon & Lawler, 2005). Simply, group membership may be beneficial even without any certain, tangible rewards.

In sum, there were two approaches to conducting research on group dynamics in the 1950s and 1960s: the focus was either on the instrumental benefits that could have been assessed based on mathematical schema, or on complex, social, affective preferences among group members estimated by means of qualitative analysis. At that time, there were limited efforts to integrate these interconnected aspects of group life. The mainstream research on cohesion focused on the emotional side of the group experience, and particularly on the degree of interpersonal attraction within the group (Carron, 1982), expressed in terms of sociometric choices among the members (Hogg, 1987, 1992; Tziner, 1982). Consequently, definitions of cohesion were restricted to affective ties among peers in a group (e.g., Etzioni, 1975), and ignored the complexity of binding forces such as common values or instrumental goals (Harinen, 1996). Conversely, exchange theory produced concrete, instrumental benefits, but at the same time lacked other types of forces that might create cohesion in the group.

Over time, the dominance of attraction-related cohesion in the research caused problems when it was noted that attraction and group performance were not in direct relation but were moderated by norms (Stogdill, 1972). There was confusion about why some highly cohesive groups performed badly whereas other groups with the same cohesion level produced excellent results. Consequently, a large body of research on performance-oriented cohesion was of limited value (Siebold, 1999). On the other hand, this problem motivated researchers to further develop models and definitions of cohesion comprising its affective and instrumental dimensions and identifying different foci of bonding in organizational membership.

2.2.2 SOCIAL COHESION VS. TASK COHESION

Social cohesion covers the emotional side of cohesion among people in a group or unit, and is at the heart of unit cohesion. It refers to the extent to which interpersonal interactions are pleasurable (McIntyre, Strobel, Hanner, Cunningham, & Tedrow, 2003), and denotes the quality and quantity of friendship among the members (Zaccaro et al., 1995) that support the desire

to affiliate with the group (Baumeister & Leary, 1995). The very first studies on cohesion described the main characteristics of social cohesion in that the measures adopted gauged friendship and satisfactory relationships between group members.

In terms of definitions, Etzioni (1975, p. 280) describes cohesion as "a positive expressive relationship among two or more actors." The task aspect of the group is not included, and Etzioni (ibid.) obviously viewed cohesion primarily as a socio-emotional, interpersonal attrition-centered notion that did no concern common goals and values that were enforced in normative integration. Indeed, he considered social integration to be the essence of cohesion where normative integration (and consensus) associated positively.

Similarly, several other definitions of group cohesion emphasize the social-emotional dimension of group membership. Hogg (1992, p. 102) describes social cohesion as *social attraction*, referring to "a positive attitude among members of a group." Ingraham and Manning (1981) focus on sentiments in cohesive groups, referring to social-emotional aspects among the members such as trust, loyalty, mutual affection, and interdependence. Such group characteristics generate feelings of belonging and solidarity among members implying social cohesion (Harinen, 2000). Mikalachki (1969), for example, identified possible indicators of social cohesion such as feelings of attraction to the group, identification with it, positive evaluation of group membership, friendship, helpfulness and cooperation among the members, a lack of hazing and conflict between people, and the refusal to be transferred to another group.

Social cohesion builds up interpersonal commitment, trust, loyalty, and attraction (Hogg, 1992). It thus signifies that group members like and care about one another, enjoy spending their free time together, and feel emotionally close as a body (Farley & Veitch, 2003). It is evident in the group members' "friendly, outgoing, sociable, and warm behavior" (McIntyre et al., 2003, p. 7). In the end, social cohesion stems from feelings of belonging, a sense of we-ness (Ingraham & Manning, 1981), and interpersonal attraction that makes members remain in the group (Griffith, 1986b; McGrath, 1984).

The aforementioned definitions describe affective, emotional, attraction-based aspects of unit cohesion. However, leadership researchers such as Bales and Jennings were the first to combine the affective and instrumental dimensions coherently in order to explain social integration in groups. Specifically, Bales (1950; Borgatta & Bales, 1953) defined the two main functions of the group that require the leaders' attention and effort as task and social-emotional interactions, and correspondingly found that groups served the task-related and socio-emotional needs of their members. Consequently, satisfactory group membership requires a balance between task attainment and social-emotional activity.

Furthermore, Bales (1958) discerned two types of leadership: socio-emotional leadership that supports group formation and maintenance, and task leadership that focuses on the work to be done. Problems in the task

area are adaptive-instrumental in significance, whereas social-emotional problems harm group integration (Bales, 1950). For example, too much focus on instrumentally oriented activities hampers the group's social-emotional functions, whereas a sole emphasis on social meetings delays task fulfillment. Naturally, there may be a temporal focus on either function, and the emphasis varies (or may move) over time as the group develops or the tasks and the situation change. For example, the group functions and tasks that change over time may influence the relative importance of either side of the interaction (ibid.).

Carron (1982) and Zaccaro (1981) studied cohesion in order to show how prior research had focused too much on the social aspects. It had not been able to capture the overall concept of cohesion, it had failed to explain why a group may be cohesive despite negative affection, and it had not acknowledged that attraction or social aspects were not always necessary to explain task cohesion or effective group performance (Carron, 1982; Siebold, 1999). In particular, the theoretical and empirical distinction between task and social/interpersonal cohesion (e.g., Carron, 1982; Zaccaro & McCoy, 1988) was apt to explain inconsistencies in the research that aimed to equate affective, socio-emotional, attraction-related cohesion with the task-focused, instrumental dimensions (Griffith, 1988; Siebold & Kelly, 1988b; Tziner, 1982).

Research on groups in which a certain kind of performance and goals are salient to membership (such as in sports) has combined both task and social cohesion on the conceptual level. For example, Carron (1982) integrates the familiar stick-together notion with the group's goals in his frequently quoted definition of cohesion as "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives" (ibid., p. 124). Later, Carron, Brawley, and Widmeyer (1998, p. 213) added that the group could also remain united "for the satisfaction of member affective needs", and hence taking into account both affective and instrumental group processes. Following the example of Lewin (1935), Carron and Chelladurai (1981; Carron et al., 2004) labeled these two main processes of group involvement *cohesion* involving activities of group integration, development, and maintenance (cf. Bales's socio-emotional part), and *locomotion* implying activities focused on the achievement of group objectives.

Whereas the affective side of cohesion concerns the quality of interpersonal relationships (Carron, 1982; McIntyre et al., 2003; Zaccaro et al., 1995) and identification with the group and the unit (Brown, 2000; Hogg & Hains, 1996; Siebold & Kelly, 1988a), task cohesion is affected by the formal organizational goals and the informal goals of the reference group (Harinen, 1996). Task cohesion grows from the attainment of goals that are important to the group members (Tziner, 1982; Zaccaro & McCoy, 1988). Group members who share a common goal and coordinate their efforts to achieve it typically experience strong task cohesion (Farley & Veitch, 2003).

A shared commitment to the task may be due to the fact that the task itself is entertaining, stimulating, and rewarding, or the fact that its attainment will result in desired outcomes (Zaccaro, 1981). In sum, task cohesion exists when personal and group outcomes and accomplishments primarily drive group members' activities and satisfaction (Zaccaro et al., 1995).

Task cohesion had received so much research attention by the end of the 1980s that it was even equated with group cohesion. Thus, the pendulum swung from social (attraction-based) to task (instrumentally created) cohesion as a primary source of cohesiveness. Defining cohesion in terms of the pursuit of group goals is potentially problematic (Cota et al., 1995). The goals are not always set consciously, or the actions intended. People may feel that their group is *united in the pursuit of goals*, but the real actions of the group members may not reflect such intentions and vice versa. A group may pursue some set of goals, but the reasons for remaining united in the pursuit may not be related to the goals at all. For example, individual reasons, such as obedience or working for a monthly salary may make people's actions seem unitary although the source of their action is not socially driven. On the other hand, a person may bond with the group because the group has been generally more effective, which may be of benefit. However, the same person may be reluctant to give his or her best effort to the group performance, thus being a *free rider*. Given these considerations, it may be more appropriate to characterize a group as cohesive if its members feel a sense of togetherness and are willing to belong to it for both affective and instrumental reasons.

Morale and task cohesion have been related in the literature. French (1941) was one of the first to define morale, which he suggested was based on clear group goals, integrated and cooperative group actions, personal confidence in the attainment of these goals, and confidence in the other group members and oneself. Correspondingly, Shibutani (1968, p. 3) describes morale as "the degree of effectiveness with which the recognized goals of joint enterprise are pursued." For Oliver (1990, p. 6), morale implies "a confident and courageous perseverance in the work of the group." Similarly, Manning (1991, p. 455) states that "morale is the enthusiasm and persistence with which a member of a group engages in the prescribed activities of that group." Gal (1986b, pp. 550-551) summarizes the definitions in describing morale as "persistence in carrying out collective goals." Hence, morale could be perceived as motivation and persistence in a task.

Ingraham and Manning (1981, p. 5) differentiate morale and cohesion, which they claim operate on different levels of analysis: morale is an individual "psychological state of mind, characterized by a sense of well-being based on confidence in the self and in primary groups", whereas cohesion refers to a group property (cf. also Futterman, Orlandi & Schinke, 1991, p. 5). Gal (1986b) argues that morale has two main components: an individual's confidence in him- or herself as a professional soldier, for example, and in his or her small unit. All in all, self-confidence, self-efficacy, and trust in the group constitute the level of morale that is associated with

the person's involvement and commitment within the organizational framework (ibid.).

Complementing the definitions and conceptualizations, the empirical results also link cohesion and morale (e.g., Gal & Manning, 1987), and group cohesion is even viewed as a contributor to morale (Bartone, Johnsen, Eid, Brun, & Laberg, 2002; Manning, 1991; Widmeyer, Carron, & Brawley, 1993). For example, Siebold and Kelly (1988c) discovered that horizontal cohesion and high morale were interrelated in platoons. Similarly, Gal (1986b) found that the unit's cohesion and the individual's level of morale were significantly related. Moreover, he notes that morale and relationships with commanders are strongly related (ibid.). On the other hand, Siebold (1996) reported weak correlations between individual morale and leadership factors, whereas job motivation, pride, and mission morale correlated strongly. In conclusion, it appears from the theory and the previous research that morale is a person's individual will and persistence in contributing to group performance, and is closely related to individual task commitment. In a broad sense, morale characterizes the linkage between the individual's conduct in the primary group and the organizational goals.

2.2.3 SOCIAL COHESION AND TASK COHESION IN PRIMARY GROUPS

Groups typically vary depending on the degree to which they focus on either the social or the task functions. Social functions relate to the members' sociability and their friendly supportive relationships, whereas task functions emphasize cooperation, playing as a team, working well together, and taking tasks seriously (Hogg & Hains, 1996). Perhaps the most solid distinction between task and social cohesion is the one made by Griffith (1988) and Siebold and Kelly (1988a, 1988b), who argue that group membership involves two aspects of social relationships: an affective, emotional, reactive side and an instrumental, task- and action-focused, proactive side (Siebold, 2007; Siebold & Kelly, 1988a). The affective aspect creates social cohesion in trustworthy, supportive, satisfying social relationships, and the instrumental aspect produces task cohesion through rewarding teamwork, mutual aid, and the achievement of valuable goals (Siebold & Lindsay, 1999). Theoretically, the uniting forces are either emotion-laden (affective) or task-oriented (instrumental), or both (Furukawa et al., 1987). These forces cannot be totally separated because the affective and instrumental dimensions of group relationships are mutually supportive (Siebold & Kelly, 1988a). The literature on cohesion suggests several alternative names for the two dimensions, including affective vs. instrumental cohesion, social vs. task cohesion, interpersonal vs. task-oriented cohesion, and a sense of belonging vs. morale (e.g., Bollen & Hoyle, 1990; Paxton & Moody, 2003; Zaccaro, 1981).

The idea distinguishing between task and social cohesion is not totally new: earlier studies on group dynamics also have a similar approach to social integration. According to Cooley (1909/1962), a primary group's face-to-face association refers to the affective functions that create social cohesion, whereas cooperative activities and primary personal aims reflect the instrumental (task-oriented) parts of bonding. As discussed above, Bales (1950) clarified the fundamental distinction in group behaviors by showing that interaction in the group primarily served either the achievement of goals or the socio-emotional feelings of other group members (Bales, 1950; Borgatta & Bales, 1953). This distinction is still applicable to teams and groups (Dion, 2000) in that both social- and task-related forces have a bearing on the initiation and maintenance of group membership in terms of activities and interaction (Zaccaro, 1991).

The distinction between social and task cohesion was also anticipated in Festinger and his colleagues' studies. For example, Back (1951) examined cohesion based on (a) socio-emotional interpersonal attraction, (b) the instrumental attainment of goals, and c) the attractiveness of group prestige. On the other hand, Schachter (1951, p. 192) defines cohesion "in terms of the valence of the activity," making it possible to assess both the social- and the goal-oriented activities and functions of the group. Moreover, he argues that at a given point in time the affective, socio-emotional utility of the membership and the instrumental utility of the group constitute the primary forces that keep members involved (ibid.).

Jennings (1950), who studied leadership, noted that the choice of a person with whom to spend free time (i.e., social activities) differed from the choice of a work colleague (in task activities). She found that people tended to enter into leisure-time relationships with someone who satisfied their social-emotional needs, whereas the selection of a work partner was based on his or her role in the group, contributions to its functioning, and conformity to its standards (ibid.). She labeled the work group a *sociogroup*, and a leisure-time group a *psychegroup* (Jennings, 1950, p. 276, 1977, p. 92). Sociogroups are based on collaboration in work or task-related matters in order to complete the task or to achieve a common goal (Jennings, 1950), whereas psychegroups reflect private criterion (Eisenstadt, 1969) and are formed around interpersonal relationships, without any obligation to achieve certain objectives (Jennings, 1977). The difference between these two kinds of groups is that a friendship-oriented group (a psychegroup) entails close emotional ties, whereas a task-focused group (a sociogroup) offers prestige, social status, and the approval of others through the fulfilling of group goals (e.g., Festinger et al., 1950). In sum, the characteristics of the sociogroup resemble those of task cohesion, whereas the psychegroup reflects social cohesion.

Correspondingly, Hare (1962) identified two components of attraction to a group: attraction based on likeability and attraction based on task ability. His premise is that social and task orientation lead to different forms of

interaction; working together creates a different kind of togetherness than is evident in a group in which the focus is on socio-emotional needs. Similarly, Secord and Backman (1964) conclude that groups serve one or both of two types of needs: task-related or social-emotional. Expectations of the fulfillment of these needs and their actual attainment unite group members and create either social or task cohesion or both, depending on the situation. Moreover, Mikalachki (1969) distinguishes two main foci of group integration: task-related and social. For example, task groups are distinguishable based on their identification with the formal task and the success of the group.

Widmeyer and Martens (1978) examined what made a group successful in performance, and found that factors representing both social and task characteristics explained success in sports. Such factors include a sense of belonging, putting a value on membership, enjoyment, teamwork, and closeness. However, friendship did not turn out to be a powerful predictor of success in sports, indicating the strong task orientation of the teams and suggesting that friendship is only one antecedent of social cohesion. These results also imply that friendship operates more on the individual level in interpersonal relationships, whereas cohesion refers to the group level of analysis.

Referring to the distinction between task and social cohesion in the military context, Gal, Fishof, and Geva (1987, p. 8) suggest that cohesion connotes the "expressive" functions of showing affection and providing support, and the "instrumental" functions particularly of expressing confidence in competence of the group members and leaders. Tziner (1982) characterizes attractiveness of groups based on the extent to which they provide a social framework for individuals (social cohesion) and the extent to which they support performance and the attainment of goals associated with membership (task cohesiveness). Furthermore, social cohesion co-exists with affective, congenial, open, and authentic relationships, whereas task cohesion requires effective interaction for the attainment of goals (ibid.).

Tziner (1982) also describes the interesting complexity of the relations between task and social cohesion and their effects, pointing out that a formal group structure and tasks may serve as means for establishing contact in a social framework. Naturally, the opposite may also be the case. For example, even if there is hatred and anger between group members, they may work well together on account of the task and the attractive benefits to be gained. Lenk (1969) skillfully reveals this and makes a lucid distinction between social and task functions in a sport team: the Olympic rowing team performed brilliantly although they had an extremely low level of social cohesion. In other words, low social cohesiveness did not hamper the outstanding effects of task cohesion in a case in which the group members were not forced to live together and rely on their social bonds.

In terms of syntality theory (Cattell, 1948), the group is cohesive when it acts as a unit. Acting as a unit is a function of group synergy, referring to "the

total individual energy devoted to the activities of the group" (Zaccaro, 1981, p. 5). Reflecting the distinctions between social-emotional and task functions (e.g., Bales, 1950), there are two types of group synergy: maintenance synergy and effective synergy. Internal frictions are resolved and social cohesion sustained through maintenance synergy, whereby the remaining energy is mobilized through effective synergy in order to achieve group goals (Zaccaro, 1981). Basically, synergy and cohesion are two sides of the same coin – a task-cohesive group invests in effective synergy in order to fulfill the goals, whereas a socially cohesive group invests in maintenance synergy in order to support integration and satisfaction. In other words, there are two primary types of activities in the group: an emotional component emphasizing trust, care, loyalty, solidarity, support, and friendship (cf. maintenance synergy), and an action component emphasizing performance, teamwork, and goal attainment (cf. effective synergy) (Siebold, 1993). The first component produces social cohesion, whereas the second generates task cohesion.

Task and social cohesion have different effects on the various criteria (Zaccaro et al., 1995). Task cohesion supports the swift and effective completion of the common task (Tziner, 1982), whereas social cohesion may prolong work due to the emotional satisfaction of being together and solving problems together. In other words, task cohesion focuses on the end state of the group process in terms of achievements, whereas social cohesion focuses on the group process that in itself gives people satisfaction. Seeking evidence of this, Hogg and Hains (1996) compared the status of teams and found that those performing at a high level emphasized task functions more, whereas low performers focused on the social functions.

Zaccaro and his colleagues studied the effects of task and social cohesion on performance, and found that the highest group performance occurred only when both components were strong (Zaccaro & McCoy, 1988), although task cohesion tended to facilitate a higher level of performance than social cohesion. When social attraction is strong, an increase in task attraction further strengthens the sense of group closeness, whereas when it is weak, an increase in task attraction has a negative effect (Zaccaro, 1981). Interpersonal attraction thus has a positive effect on group closeness, whereas task attraction appears to have no direct effect on the perception of closeness (ibid.). In conclusion, forces creating task and social cohesion have different effects on the overall cohesiveness of the group, and a varying impact on its norms and productivity. However, both dimensions influence performance and therefore should be assessed separately in order to shed light on the interaction between the cohesion components and the criteria in research and in real-world groups.

2.2.4 PEER AND LEADER-SUBORDINATE COHESION

Etzioni (1961) was the first to distinguish and define *peer cohesion* and *hierarchical cohesion*. Peer cohesion refers to the bonds linking actors of the same rank, whereas the bonds linking actors of different ranks signify hierarchical cohesion (Etzioni, 1975). In the literature, peer cohesion and horizontal cohesion are used as alternative expressions of the same concept. *Peer/horizontal cohesion* is thus a form of social integration among peers in an informal and/or formal group "who share tasks and collective activities in the unit" (Bartone & Kirkland, 1991, p. 396). It is established in group-formation and maintenance processes that provide common experiences, sustain supportive relationships, promote care, concern, trust and appreciation among members, facilitate cooperative and coordinated teamwork, and reinforce closeness and solidarity (Vaitkus, 1994).

Correspondingly, *leader-subordinate cohesion*, hierarchical cohesion, and vertical cohesion are used as synonyms in the cohesion literature. On the individual level, vertical/hierarchical (Dion, 2000; Siebold, 1993) and leader-subordinate bonding (Griffith & Vaitkus, 1999), or simply leader bonding, is the degree to which group members identify with and positively relate to their leaders (Holz, 1986). The implication is subordinates trust in, identify with, and even like their leader (Bartone & Kirkland, 1991; Furukawa et al., 1987), and that the leader correspondingly respects and has confidence in his or her subordinates and is mindful of their personal interests (i.e., their welfare and other higher-level needs) as well as of their task-related instrumental demands (cf. Bass & Avolio, 2000; Shils & Janowitz, 1948). This kind of bonding develops through shared, positive experiences with the leader in terms of personal interaction, group performance, and other relevant group activities and associations on- and off-duty (McBreen, 2002; Wesbrook, 1980). In circumstances in which the group works and lives together in a structured way and under the guidance of the supervisor, leader-subordinate cohesion is even more salient than in other milieus (Mael & Alderks, 1993). In a small unit with strong vertical cohesion, the leader is thus able to direct and control the group members' behavior more effectively (Griffith, 1986b), and to influence the norms created in subgroups that direct attitudes and behavior toward organizationally important goals.

Peer and leader-subordinate cohesion both develop in group life, and therefore have common factors that explain the relative degree of cohesion. For example, It is argued that the development of mutual respect, trust, confidence, and understanding among peers and leaders is an essential building block for peer and vertical cohesion (Alderks, 1992), and that strong vertical cohesion positively affects peer bonding in units (Vaitkus, 1994). In conclusion, the importance of leader-subordinate bonding is based on its wide personal and organizational impact. For example, the quality of the group members' relationships with their leader influences the development of unit cohesion (Johns et al., 1984) and many other aspects such as well-

being, identification, and resistance to disintegration (Griffith, 2002), as well as personal and group performance (Alderks, 1992; Mael & Alderks, 1993).

2.2.5 PEER AND LEADER-SUBORDINATE COHESION IN PRIMARY GROUPS AND THEIR AFFECTIVE AND INSTRUMENTAL DIMENSIONS

The conceptualization of cohesion developed further during the 1980s as a result of research on social dynamics in sports and military groups. Carron and his colleagues (e.g., Brawley, Carron, & Widmeyer, 1988; Carron, Widmeyer, & Brawley, 1985; Widmeyer, Brawley, & Carron, 1985) further improved the multidimensional model and launched *the Conceptual Model*, which distinguishes individual and group aspects of communal life from the task and social levels of group involvement. They suggest that group members assess the various and meaningful aspects of group life, form beliefs and perceptions about togetherness in the pursuit of goals, and integrate themselves into the group and its relevant characteristics thereby creating a sense of cohesiveness (Widmeyer et al., 1993). Interestingly, Carron (1982) notes that the members of a sport team need not necessarily like one another, but would stay together as long as they were competing in the league. This individual–group distinction underlines the basic difference between social and task cohesion and the effects of the group functions and purpose. Specifically, it highlights the two dimensions of bonding: *group integration* refers to the extent to which the group members are united and hold together as a totality, whereas *individual attraction* implies personal attraction. Both have their task and social orientations (Widmeyer et al., 1993). The task-social distinction denotes the difference between a personal interest in the group task and an interest in the quality of the social relationships. Overall, Carron's distinction encompasses four subcomponents of cohesion: Group Integration – Social, Group Integration – Task; Individual Attraction to the Group – Social, and Individual Attraction to the Group – Task (Carron & Brawley, 2000; Carron et al., 2004).

Conceptualizations of cohesion in research on military units also incorporate several elements and dimensions. The first relatively comprehensive definition describes cohesion as "the result of forces acting on soldiers that attract and bind them together producing commitment to other unit members and the unit as a whole to accomplish unit missions" (Action Planning Group, 1979, p. 4). This definition comprises the elements of both primary- and secondary-group cohesion as well as their affective and instrumental dimensions. Manning and Ingraham (1983, p. 7) define military-unit cohesion as "the bonding together of soldiers in such a way as to sustain their will and commitment to one another and the unit" (cf. quite similar definitions in Furukawa et al., 1987; Johns et al., 1984).

According to Gal (et al., 1987, p. 30), cohesion comprises four components: "a) bonding (interpersonal, confidence), b) vertical, c) horizontal, d) commitment (organization, unit, mission)." In fact, this definition incorporates four different levels: peers, leaders, the unit, and the Army. However, there is a prevalent difference between the definitions of cohesion in Israeli and U.S. research. Yagil (1995) argues that the U.S. conceptualization incorporates the multidimensional elements of both primary and secondary groups, whereas in the Israeli Defense Forces cohesion refers mainly to the quality of relationships among the unit soldiers. In terms of communalities, these definitions combine the essential elements of Festinger's (1950) conception of resultant forces, encompass interpersonal and abstract bonding, and identify the importance of goal orientation. Moreover, they both stress commitment to the larger organization and its mission.

In the context of the U.S. military research, Furukawa and his colleagues (1987, p. 2) stress the quality of relationships and confidence in group members and leaders by describing military-unit cohesion as the product of peer bonding between soldiers, leader bonding, "bonding and affirmation of the special properties of a group", and "a set of perceptions of the skills and abilities of one self and others." Basically, they used utilized the distinction between peer and leader cohesion but extended it by incorporating the properties of the group members and the group in general. This last-mentioned aspect alludes to the attraction of the group as described by Festinger and his colleagues (1950), Carron (1982), and Hogg (1992).

The importance of mission accomplishment comes out in any definition that emphasizes the link between task cohesion and unit goals. For example, Savage and Gabriel (1976, p. 341) describe cohesion as "assurance that a military unit will attempt to perform its assigned orders or charged mission, irrespective of the situation." As discussed above, this definition would apply to task cohesion in a situation in which group norms comply with unit standards and goals. However, it does not cover situation in which strong social cohesion creates norms that do not support the unit's mission. The inclusion the mission in the definition implies that soldiers accept it as their own. However, acceptance of certain behavior or goals always involves norms related to other phenomena than cohesion.

Griffith and Siebold (and his colleagues) made an intensive effort to improve both the conceptualizations and the measures of unit cohesion in the 1980s and the 1990s. Both scholars presented their first insightful papers on cohesion in 1986, and their definitive articles were published in 1988. For the most part of the two conceptualizations were similar, although there were some differences in emphasis.

According to Siebold (1987), unit cohesion consists of affective and instrumental dimensions on three levels: horizontal among peers, vertical among soldiers and their leaders, and organizational bonding to their units and the Army. Horizontal cohesion comprises affective peer bonding and

instrumental teamwork (Siebold & Kelly, 1988b), vertical cohesion comprises leader caring (affective) and competence (instrumental), whereas organizational cohesion includes pride and shared values (affective), and the attainment of needs and goals (instrumental) (Siebold & Lindsay, 1994). The affective component on the horizontal dimension indicates the quality of social relationships among peers and the extent to which group members like, enjoy, trust, care, and respect their peers (Siebold & Kelly, 1987a), whereas the instrumental component indicates the quality of teamwork and the extent to which members work together in order to achieve their goals (ibid.). On the vertical dimension the affective component assesses leaders' care and concern for their followers, "the degree to which leaders look out for and help their subordinates", and the extent to which they trust and care for one another (Siebold & Kelly, 1988a, p. 2). The vertical instrumental scale emphasizes the leader's expertise, training skills, and the ability to get the job done (Siebold & Kelly, 1987a), and competence in particular influences the followers' perceptions (ibid.). Thus, horizontal cohesion is a sign of satisfaction with peer relations, vertical cohesion reflects the quality of and trust in superior-subordinate relations, affective cohesion indicates interpersonal support, and instrumental cohesion concerns task performance.

Similarly, Griffith (1988, p. 165) summarizes the two primary elements of cohesion as "the direction of cohesion" (horizontal vs. vertical) and "the functions of cohesion" (affective vs. instrumental). Thus, unit cohesion comprises "the quality of interpersonal relationships among soldiers (horizontal cohesion) and between soldiers and their leaders (vertical cohesion) as well as commitment of the soldier to the goals of the primary group, the unit, and the larger organization" (Griffith, 1986b, p. 2). Griffith (1986a, p. 9) thus identifies three aspects of unit cohesion: "horizontal cohesion, vertical cohesion, and commitment."

According to Griffith (1987), cohesion provides people with instrumental and emotional support on different organizational levels. Interestingly, he categorizes the relevant units as the primary group, the larger unit, and the Army as an institution (Griffith, 1986a, 1986b, 1987). Thus, the quality of support on the different levels determines the relevant foci. In sum, both Siebold and Griffith developed a model of unit cohesion that recognizes its primary dimensions on the horizontal, vertical, and organizational level.

2.2.6 COHESION IN PRIMARY AND SECONDARY GROUPS

When a small unit is nested inside a large organization, primary-group cohesion is not the only structure of social integration explaining why people remain united and work for the unit. In such organizations, cohesion has more layers than in families, class-rooms, sport teams, and social groups, for example (Siebold & Lindsay, 1999). As Oliver (1990) contends, the

conceptualizations of peer and vertical cohesion only concern the primary group and lack the reference to the overall unit. The value of studying cohesion in the organizational context is that it reveals the influences of experiencing belongingness and we-ness within a larger entity. This phenomenon is referred to in the literature as *esprit de corps*, or *organizational cohesion* at the group level of analysis and organizational bonding at the individual level of analysis.

The immediate unit in nested organizations is the *primary group* in which the emphasis is on interpersonal relationships. The larger unit is the secondary group in which the commitment is more abstract. The difference between primary and secondary groups is also evident in descriptions of communities. For example, attachment to and identification with the community refer to a secondary-group phenomenon, whereas neighborhood activities, social networking, and participation in events denote a primary-group construct (cf. McClure & Broughton, 2000).

A *secondary group* refers to the largest salient organization that directs the living and working of people towards the achievement of a shared purpose or goals. It starts at the first impersonal hierarchical level the person belongs to, beyond which there are few interpersonal contacts (Schein, 1965). In the military, for example, a squad and a platoon consist of 'family members' and form a primary group, whereas the company is the most salient, cohesive secondary group (Vaitkus, 1994) that unites the soldiers in performance and provides them with a point of reference in terms of management and normative standards (Little, 1964; Pipping, 1988; Savage & Gabriel, 1976). In other words, the company is large enough for people not to know all the other members well, but small enough to allow the sharing of experiences (Manning, 1991). However, the size of the unit in which secondary-group cohesion develops varies (Todd, 1992). Whereas the regiment tends to be the locus in the British Army (Harinen, 2000; Manning, 1991), the company or the battalion constitute the platform for unit cohesion among U.S. troops (Todd, 1992). In sum, the unit (e.g., a department or a company) forms the first level of the secondary group.

The *secondary group* constitutes a 'structural dimension' that connects organizational and institutional roles with the specific role expectations (obligations and prerogatives) in the primary group that govern personal behavior (Walberg, 1967). Therefore, the aggregate features of the secondary group (such as its environment) may also influence the individuals indirectly by shaping their perceptions of primary-group elements (Mathieu, 1991). The secondary group is relevant in the extent to which it gives a purpose to the tasks carried out in the primary group (Todd, 1992), creates a feeling of shared interest (Moskos, 1988), establishes goals and objectives, provides instrumental support, and prescribes standard operating procedures that affect unit cohesion (Henderson, 1985).

Secondary-group cohesion (and its subcomponents such as organizational cohesion) differs from primary-group cohesion in terms of the

importance of interpersonal attraction as an ingredient. Organizational bonding entails entering into a more abstract relationship (Siebold & Kelly, 1988a), which does not feature in horizontal or vertical bonds (Todd, 1992). On the other hand, unit cohesion is less intense than group cohesion (Etzioni, 1975). Moreover, it is more difficult to attain, and needs more work in order to be maintained due to the bigger group size and the reduced interaction among all members (Wesbrook, 1980). Whereas the quality of personal relationships and attraction are vital in the primary group, interpersonal attraction has less meaning in bonding with larger entities in which face-to-face interaction is not a standard function (McClure & Broughton, 2000).

2.2.7 ORGANIZATIONAL COHESION AS THE FIRST LEVEL OF SECONDARY-GROUP COHESION

The first level of secondary-group cohesion is termed *organizational cohesion*. On the individual level of analysis it refers to organizational bonding or commitment, and on the theoretical level of it has similar affective and instrumental dimensions as primary-group cohesion (Griffith, 1988; Siebold & Kelly, 1988a). *Affective* organizational bonding involves loyalty to a secondary group (Manning, 1991), identification with the unit (Siebold & Kelly, 1988a), acceptance and congruity of values (Siebold & Kelly, 1987a), and pride in the unit (Grice & Katz, 2005a). From the *instrumental* perspective, the unit is a source of power and security, and serves the soldier's physical and psychological needs (Wesbrook, 1980). Instrumental organizational bonding measures the degree to which the person attains his or her goals and basic needs through the group membership, and his or her satisfaction with the clarity of the unit rules and norms (Siebold & Kelly, 1987a). Research results indicate that organizational cohesion could be affected by several policy-related variables such as equipment, resources, housing, benefits, job rotation, replacements, and quality of life (Butler, Blair, Phillips, & Schmitt, 1987). Moreover, organizational bonding necessitates satisfaction with the job, the pay, supervisors, promotion, and the community as a whole (Griffith, 1986b). Instrumental organizational bonding grows from positive exchange between a member and the unit in terms of the extent to which the unit meets personal needs and the individual works toward achieving the group tasks and goals (Siebold & Kelly, 1988a).

Organizational cohesion entails the bonding of group members with the management and their distant, unit-level leaders, and their identification with the organization (Rush, 1999). In the military context, the quality of organizational leadership and the extent to which management supports the soldiers' trust and confidence influence organizational cohesion (Griffith, 1986a). Specifically, trustworthy supervisors strengthen organizational

bonding by protecting subordinates from unnecessary orders from above, establishing a sense of control over events, connecting with unit leaders and commanders, and supporting identification with the military and its goals (Henderson, 1985).

The research on cohesion in military units refers to *esprit de corps* as an organizational level of affective (pride) and instrumental (task-related) cohesion. Replacing organizational cohesion, esprit de corps or élan explains the human element at the unit level (Henderson, 1985) in terms of "the strength of affect among large collectives of individuals or groups" (Futterman et al., 1991, p. 5). Esprit de corps is a wider concept than primary-group cohesion, referring to soldiers' loyalties beyond their face-to-face relationships with peers and leaders (Gal et al., 1987; Ingraham & Manning, 1981; Manning, 1991), and an impersonal bonding that links the primary group with the purpose of the unit. Basically, esprit de corps is considered necessary for effective unit performance in the military (Manning, 1991). In this study, it is regarded as an organization-level counterpart of individual-level morale covering both the instrumental side of commitment (on the individual level) and cohesion (on the unit level). The terms individual morale and the unit's esprit de corps are used in connection with fulfilling the main purpose and functions of the group. However, they do not cover all the instrumental aspects of primary and secondary groups such as skills improvement, instrumental support, benefits, and need fulfillment. Moreover, in terms of usage they ignore the value of affective, interpersonal relationships in the primary group and the importance of member bonding to the purpose of the organization and institution on the secondary-group level.

2.2.8 INSTITUTIONAL COHESION AS THE SECOND LEVEL OF SECONDARY-GROUP COHESION

"An institution is a mature, specialized and comparatively rigid part of the social structure" (Cooley, 1909/1962, p. 319). An institution furnishes the conditions for its members' performance and provides a locus for identity in order to unite the members on the secondary-group level (Moskos, 1988). Whereas a unit or organization may shape its structure and appearance quite rapidly in the process of transformation and development, the institution in which it is nested has a more solid, crystallized form that secures "sentiments, beliefs, customs, and symbols" in its suborganizations (Cooley, 1909/1962, p. 313).

Manning (1991) distinguishes between immediate and distant secondary groups. The immediate secondary group (such as a unit) represents both a symbolic and an administrative organization with a distinctive name, color, dress code, location, structure, set of standards, and management. It also has an interpersonal dimension comprising the official representatives of the organization such as supervisors and staff. On the other hand, the distant

secondary group represents the institutional level, which is more of an abstract, impersonal concept in the symbols of the organization and the minds of the people than an actual group. Nevertheless people form institutional bonds with symbolic characteristics such as values, the mission, traditions, professional pride, and ethics (ibid.).

In addition to representing continuity and permanence (e.g., Cooley, 1909/1962), according to Moskos (1977, 1981, 1986), the institution serves as an important interface between the organization and society. Thus, it has a valuable role as the largest unit for bonding and as a link between the official entity and the national and societal levels. The specific differences between the organizational (e.g., the unit) and the institutional (e.g., the Army) levels are that (a) the unit needs to deal with occupational tasks and bureaucratic management whereas the institution provides a general purpose and principles, and a broad mission for its members, (b) the means and structure of the unit change more rapidly than the institutional characteristics (Cooley, 1909/1962), (c) the institution is the salient (and perhaps the only) organizational level that has cultural capital (Yoon & Lawler, 2005), and (d) organizational benefits (pay and commodities) create and maintain calculative involvement (cf. continuance commitment), whereas the internalization of the institutional aspects generates moral involvement (Johns et al., 1984; Mowday, Porter, & Steers, 1982).

Gal (1985) confirms the importance of the institutional aspects of the military, noting that the impact of commitment increases as a function of the increase in ideological orientation (driven by norms and values), whereas the opposite results if the military is more occupationally and bureaucratically driven. If the orientation is towards an occupational model, the organization will increasingly lack the benefits of institutional cohesion. For example, the institutional dimension gives meaning to tedious work, and therefore the person may have an additional layer above the unit to which he or she can commit, whereas someone who works for an organization only for the income is attached only to the unit-level instrumental aspects and has no higher purpose for his or her group membership.

Of the different conceptualizations of cohesion, Siebold (1993, p. 2) represents the full spectrum, encompassing "the relations between the members of a unit and the unit as a whole, as well as between the unit and larger sized units, including the Army as a whole" – the last referring to institutional integration. Lakhani (1990) differentiates institutional, patriotic soldiers who take pride in serving their country from "occupational" soldiers who regard service more as a job. On the other hand, Griffith (1986a, 1988, 1989) uses a "Sense of Pride" scale to measure the extent to which soldiers have internalized the values and legitimacy of the Army, found meaning and purpose in their job, and developed a sense of pride. In other words, this scale assesses whether soldiers are united with their institution. Stewart and Weaver (1987) studied military cohesion based on four factors: peer bonding, vertical bonding, organizational bonding, and structural / societal factors. In

fact, their organizational bonding comprises elements that are categorized as institutional bonding in this study, such as the concepts of valor or heroism, military tradition and history, patriotism, loyalty to the nation and its values, and a strong religious belief. In the literature on organizational commitment, Allen (2003) distinguishes between the organization and the institution, suggesting that individuals may have a strong commitment to their own unit while having a weak commitment to the institution as a whole.

Although secondary-group cohesion is neglected in much of the research, the idea of a larger framework for the cohesion model is not entirely new in that some scholars have added an even higher level, *societal*, which refers to bonding with one's society and culture (Henderson, 1985; Stewart, 1991; Stewart & Weaver, 1987). From another theoretical perspective, *cultural capital* represents the fundamental elements of an institution (e.g., its status and reputation as part of society), and guides the members' actions as its representatives in a given organizational context (Yoon & Lawler, 2005). Cultural capital is potentially a positive force binding the members of the group and the organization in that it may develop moral commitment to the institution in the form of esteem, affection, prestige, and ritualistic symbols (Johns et al., 1984).

At its best, the institution may work as an effective administrative and logistic framework for supporting bonding in primary groups (Shils, 1957). The value of the secondary group comes from how it regulates the motives and behavior of its members. The objective of an institution is to formulate a purpose that guides individuals to strive "in favor of a presumed higher good" (Moskos, 1986, p. 378, 1988, p. 59) such as national security (Manning, 1991), democracy, or freedom. Consequently, a sense of meaning brings about commitment to the organization (Avolio, Zhu, Koh, & Bhatia, 2004). Moreover, the institutional bonding of the members makes them more willing to sacrifice themselves for the benefit of the unit (Moskos, 1988).

Institutional bonding may have the same affective and instrumental dimensions as other cohesion components, although the bonds between the person and the institution may be more affective and emotional than instrumental and practical due to the more abstract meaning of the institution to the person. In line with Gal's (1985) view on commitment, institutional bonding (as a type of commitment) refers to conviction and agreement with the purpose and goals of the institution. These affective bonds (or ideological beliefs) may affect the personal motivation and combat effectiveness of soldiers through motivating performance and setting standards for group norms (Chodoff, 1983). In terms of the instrumental aspects, the individual may profit from benefits that are allocated based on membership in the institution. Such benefits are typically non-cash, such as food, housing, uniforms, and medical care (Moskos, 1988), and are not necessarily determined in accordance with local-unit membership in the

larger entity. Consequently, the quality of institutional benefits affects the extent to which the individual commits to the institution.

As part of an institution, a member may form a higher-order identity that allows him or her to lean on "something greater than the individual", and to join "a powerful and edifying collective" (Ashforth & Johnson, 2001, p. 37). When the organization, its mission and purpose (as institutional factors), and the upper-level national goals are legitimate, it can serve as an extension of society (Wesbrook, 1980). Furthermore, the legitimacy of an institution, and public opinion and support for it, may positively affect how members bond with it. As an example, most citizens of Western countries generally perceive the military as a legitimate institution, which makes it easier at the start for soldiers to identify with the institutional characteristics (Harinen, 1996). Moreover, the values and norms of an institution are reflected in familiar mottoes (such as duty, honor, country in the U.S. or *koti, uskonto ja isänmaa* in Finland) (Moskos, 1986), thereby easing the process of social integration into the unit.

As a result of institutional bonding, the members are more loyal and work hard for their unit. Furthermore, an individual may create a specific, inherent type of institutional bonding, labeled a 'calling' (Franke & Heinecken, 2001), which refers to a 'lifetime commitment' (Gal, 1985) representing deep-rooted bonding with the institution (rather than with a specific unit) (cf. Meyer & Allen, 1991). For example, Mael (1989) argues that loyalty and allegiance to the Army in the form of identification with the institution explain why soldiers fight and persevere. Similarly, Siebold (1996) emphasizes the importance of emotional commitment to the Army as the primary predictor of job-performance ratings among U.S. troops deployed to Sinai. Moreover, the results of this study indicate that the importance of institutional bonding becomes evident if other elements start to fail. In sum, institutional bonding provides the psychological backbone that carries the organizational membership through its hardships.

2.2.9 NATIONAL COHESION

> *Identification with cause is like a joker in a deck of cards. It can substitute for any other card.*
>
> *(Dollard & Horton, 1943, p. 56)*

Cultures and societies constitute the largest framework in which group cohesion takes place. Membership in a society can give a meaning and a purpose to unit membership and to personal effort in the organization. In the broadest sense, one's national background offers shared experiences and understanding of situations that unites people and produces collective behavior as a nation (Hofstede, 1983). Inkeles and Levinson (1954, 1963; Levinson, 1957) even argue that people may share relatively enduring

personality characteristics based on their national background, and therefore are united by their national character. On the other hand, Hofstede (1983) criticizes the notion of a national character based on the simplistic stereotyping of nations and people's personalities, and argues that the term national culture would better gauge the influences of national-level attributes on human behavior. Nevertheless, the literature posits that people could be united by means of a social-integration process that may lead to national cohesion.

National cohesion refers to a macro-level social mechanism that develops through thousands of lower-level, organizational-integration processes in a society (Malešević, 2011). For example, an institutional or national ideology may structure order and stability in the organizational system (Wesbrook, 1980) and reinforce member loyalty and selfless service (Franke & Heinecken, 2001). Therefore, bonding with the cultural dimensions of an organization such as its shared norms, values, and symbols may in some cases be a significant component of cohesion (McClure & Broughton, 2000).

Theory and research on unit cohesion support the existence of cohesive bonds on multiple levels from the primary group to the nation (Johns et al., 1984). For example, Yagil (1995) distinguishes bonds that extend beyond the primary group, suggesting that people may have a sense of togetherness with the organization and society in general. Specifically, Yagil (ibid.) perceives affective and instrumental dimensions of cohesion on the four levels of bonding: among group members, between members and their leaders, in the organization (e.g., the Army), and in society as the largest social entity. Stewart (1991) argues that society is the upmost level that affects unit cohesion. More specifically, she (ibid.) states that patriotism, traditions, an elite status, and a strong sense of purpose strengthen organizational bonds. On the other hand, a wrong strategy or a lack of political will may weaken these cohesive forces.

Wesbrook (1980) identifies three motives in a person's attachment to the national sociopolitical system: (a) a sense of national identity (i.e., nationalism), (b) perceptions of the effectiveness of the system (including met expectations, need fulfillment, functioning tasks, and quality of authority), and (c) acceptance of the national ideology. Ideology is defined as "a shared set of values, beliefs, and practices concerned with social and political life that define what is right and proper" (ibid., p. 254). Logically, societal bonding implies an individual's commitment to these values and symbols (cf. Moskos, 1988), and to a national social-political system, ideology, and patriotism (cf. George, 1971).

The elements of national/societal bonding are transferred to the primary-group level through a socialization process that sets, enforces, and instills national values and perceptions in group norms (Henderson, 1985). Basically, political, ideological, and cultural symbols and values act as uniting forces when they are linked with gratification from organizational experiences, and normal life and relationships in a group (Johns et al., 1984;

Jordan, 1971; Shamir, Brainin, Zakay, & Popper, 2000; Shamir, Zakay, Brainin, & Popper, 1998; Shils & Janowitz, 1948). In exchange, the organization can utilize institutional and national/societal bonding whenever the authorities are keen on "winning the hearts and minds" of the people for their legitimate purposes (Savage & Gabriel, 1976, pp. 365-366).

Nationalism and patriotism imply personal bonding and commitment to societal characteristics. Griffith (2005) showes how *nationalism* connects soldiers with the overall mission and supports their retention in reserve forces. It could therefore support cohesion in organizations that represent the nation (Henderson, 1985). The literature connects *patriotism* with devotion to the homeland and the willingness to make sacrifices on behalf of it (Griffith, 2005, 2009). For example, patriotic soldiers want to serve their country (Franke & Heinecken, 2001), experience the military, and devote themselves to the "contract" (e.g., not letting family or buddies down) (Griffith, 2005). As an extreme example, patriotic Japanese soldiers fought to the death even without the presence of their primary group (Wesbrook, 1980). Although patriotism and nationalism are not essential for the existence of military discipline and unit cohesion (as primary-group phenomena) (Savage & Gabriel, 1976), a sense of cause and meaning may have value in strengthening individual-level commitment and devotion to membership in the particular *secondary group* (Moskos, 1988).

Status in society due to membership in an institution may affect an individual's national/societal bonding. For example, an honorable status or social prestige as a soldier indicates that society values personal efforts on behalf of the institution (George, 1971), which may strengthen the feeling of belonging to the organization. The content of values and ideology does not directly affect cohesion, whereas the way the organization and the primary group adopt the values as part of everyday life does make a difference. The type of government or ideology thus does not have an impact on cohesion, and both democratic and totalitarian nations may have organizations with equally high degrees of cohesion (Henderson, 1985). As a consequence, organizational members may work ardently although their opponents try to convince them that it is not ideologically or politically reasonable (Shils & Janowitz, 1948).

In the military context, societal and national bonding are not necessary for successful primary-group integration and unit bonding, although they help integration. One example is the French Foreign Legion, which does not need societal bonds in order to be a highly effective military force (Wesbrook, 1980). In this case, peer, vertical, organizational (unit-level), and institutional bonding (to the Legion) integrate soldiers into a fighting unit. Giving another example, Shils and Janowitz (1948) suggest that the propaganda against German soldiers had only limited value in disintegrating the troops because it targeted ideological aspects that were not salient in the primary-group relationships. Correspondingly, Pipping (1947) noted that Finnish soldiers were not politically or ideologically motivated. Similarly,

Stouffer and his colleagues (1949) argue that ideological reasons were not among the significant forces that kept men fighting in combat. In the same way, symbols of their society such as patriotism and the flag did not significantly influence combat motivation among U.S. soldiers during the Korean War (Little, 1964).

In general, ideology and commitment to a social and political system have only a weak impact on combat motivation (Chodoff, 1983). Life in a military primary group is apolitical, or even antipolitical and anti-ideological (e.g., Little, 1964), and possible societal bonds represent (individual) underlying commitments that do not appear in interpersonal relationships (Moskos, 1988). Thus, national cohesion may have an effect as a latent force, whereas involvement in the primary and secondary groups are the principal concerns in normal life (Moskos, 1988; Wesbrook, 1980). Consequently, the purpose of the war or the symbols and values of society (as possible foci of societal bonding) may have only minimal value at the primary-group level (Shils, 1957). In conclusion, an ideology may unite a nation or explain the origin and direction of a country, but it nevertheless has only limited value in the process of social integration compared to the impact of group processes and leadership (Savage & Gabriel, 1976).

Moskos (1988), in contrast, argues that the importance of the primary group in sustaining combat effectiveness was overrated due to ideological conformity during World War II. He also notes how the Vietnam War revealed the impact of a lack of societal support and legitimacy on operations. Alternatively, *anomie* (Durkheim, 1897/1951), meaning a sense of disintegration and a lack of cohesion in a social structure (Bollen & Hoyle, 1990; Dion, 2000), produces a lack of clarity, rootlessness, and organizational disorientation (Shalit, 1982) resulting in a deterioration in primary- and secondary-group cohesion. Therefore, broad societal agreement on the need for the institution in the interests of the nation supports unit cohesion directly in nested units (Henderson, 1985).

According to Ashforth and Johnson (2001), collective identity in a given organization is more salient than lower-order identities when unit membership (a) involves unique values and goals, (b) provides high status, (c) produces common identities among subgroups, (d) takes place in a centralized organization in which the unit gives direction and resources, or (e) is threatened by external forces. Institutional membership affects the social identity of the members, and the institutional characteristics serve as stable and impersonal objects with which the individual can identify. National symbols, traditions, and values may have more importance in the formation and maintenance of a national identity in the face of an external threat that jeopardizes the existence of the nation (cf. Chodoff, 1983). For example, ideologically motivated soldiers could comprise the hard core in terms of integrating other soldiers into the purpose and actions of the organization (Shils & Janowitz, 1948). Moreover, bonding and commitment

to the institution and society could be a precondition for the efficient formation of primary groups (Gal et al., 1987).

In conclusion, cohesive forces are most powerful on the primary-group level in terms of binding people to the group and the organization. The purpose of uniting forces on the secondary-group level is that they justify the existence of nested primary groups, and take care of the unit members' needs and functions through effective organizational management and practices. As a result, when the primary group is cohesive and the purposes of the organization and institution are legitimate and accepted, it is almost impossible to break the organization's integration pattern.

2.2.10 SOCIAL IDENTITIES IN NESTED ORGANIZATIONS

The concepts of *social identification* and social attraction relate to the tradition of studying group cohesion. Stogdill (1972, p. 27) defines cohesion as "the extent to which the members reinforce each others' expectations regarding the value of maintaining the identity of the group." Griffith (1986b, p. 8) brings identity into the picture, suggesting that cohesion is "the extent to which group members maintain the group identity," whereas according to Carron and Spink (1995, p. 91), "cohesion is a cognition about the group that exists in the minds of individual group members." Similarly, Hogg (1992) considers cohesion from the perspective of the currently influential social identity theory: "a cohesive group is one in which members identify strongly" (ibid., p. 110). Hogg's contention is that cohesion entails the group members' attraction to the idea of the group and its consensual prototypical image. Consequently, identification with the group's characteristics and aspirations strengthens the members' attraction to the group and makes it cohesive (Brown, 2000).

Personal identity is "one's conception of self as unique and distinct from all other humans" (Hogg, 1992). Formal identities typically bring opportunities for higher status, better rewards, and a more fulfilling career. However, people have more latitude to select *informal* identities because they provide affective value (Ashforth & Johnson, 2001). The most salient identity is based on the internal preferences that structure the person's "core sense of self," which is "highly relevant to his or her goals, values, or other key attributes," whereas *situational identity* is based on the relevance of norms reflecting what "is socially appropriate to a given context" (ibid., p. 32). Thus, social identities are both created by and dependent on the context in the social field (Hogg, 1992). A situationally applicable identity varies between groups and circumstances, whereas one's subjectively focal identity remains more stable (Ashforth & Johnson, 2001).

Brewer and Gardner (1996) and Brickson (2000) in their studies on the fundamental aspects of identity orientations distinguish between individual, interpersonal, and group loci of self-definition, which correspond with

personal, relational, and collective identity, respectively. These orientations differ depending on the extent of social motivation, self-knowledge, and self-evaluation involved (Brickson & Brewer, 2001). Moreover, the same authors (Brewer & Gardner, 1996; Brickson, 2000; Brickson & Brewer, 2001) suggest that a person may have a predominant orientation that directs his or her motivation, self-image, and comparisons to others. For example, a *personal-identity* orientation indicates (a) self-interest (personal gain), (b) self-knowledge in terms of individual traits or personal characteristics, and (c) self-evaluation in terms of comparisons to other people and their traits (i.e., interpersonal comparison). A *relational-identity* orientation coexists with (a) a primary motivation to support the welfare of significant others, (b) self-knowledge with reference to others as friends or colleagues, and (c) self-evaluation based on the ability to perform the role of a friend or colleague (i.e., comparison to role standards). Finally, a *collective-identity* orientation reflects (a) the motivation to support the group's collective welfare, (b) self-knowledge in terms of the group prototype (what is a good member like in this group), (c) and self-evaluation based on one's prototypical role in comparison with the same kind of prototype in another group (e.g., being a leader in this group vs. in another group, in other words intergroup comparison). It is likely that both the relational and the collective identity orientations are positively related to cohesion. Moreover, the latter may support awareness of processes of secondary-group cohesion through intergroup comparison and a group-promoting motivation to improve ingroup as opposed to outgroup welfare. On the other hand, those with a personal-identity orientation may find it difficult to integrate into a cohesive group due to their interest in their own benefit and lack of awareness of the need for affective investment and trust as a good group member (Brickson & Brewer, 2001).

Social identity theory originates from Tajfel's and Turner's studies (Tajfel, 1957, 1959; Tajfel & Turner, 1979; Turner, 1982, 1985; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) on self-categorization, and led to Hogg's (1992) theory of social identity. Tajfel (1978) defines three components of social identification: (a) a cognitive component, meaning that the person acknowledges him- or herself as part of a particular social category, (b) an evaluative component comparing the value of the group to that of other groups, and (c) an affective component referring to the extent to which the person is committed to that group. In other words, (a) self-categorization, (b) social comparison, and (c) commitment explain why somebody forms a certain social identity and his or her social attraction in a group. Social categories and prototypes are of value in that they make it easier to define and evaluate oneself (and form a self-concept) in social comparisons (Hogg, 1992). "Self-categorization depersonalizes perception and conduct" so that members are processed "as embodiments of the contextually salient perceived group prototype" (Hogg & Hains, 1996, p. 295). Basically, through self-categorization a person assesses whether he or she shares certain

characteristics and experiences with others (Ellemers, 2001). The optimal *prototype* maximizes intergroup differences while simultaneously minimizing intragroup differences (e.g., Hogg, Turner, & Davidson, 1990; Turner, 1991; Turner et al., 1987; Turner & Oakes, 1989). Similarly, the most prototypical member differs the most from outgroup members and the least from ingroup peers (Hogg, 1992). Correspondingly, members who identify strongly with the group are positively assessed by other members but not liked as much on an interpersonal basis (Hogg, Cooper-Shaw, & Holzworth, 1993).

Social comparison means ascertaining the correctness of one's attitudes and behavior by comparing them with those of others (Festinger, Torrey, & Willerman, 1971; Hogg, 1992). The comparison is typically with others who share the same kind of work, pay, background, education, or neighborhood (Moskos, 1986). Social comparisons and self-categorization lead to the formation of social identity, which serves as a reference point for further comparisons and differentiations (Brewer, 1991).

Self Categorization theory makes the important distinction between two types of within-group attraction: *personal attraction* (liking of others) and *social attraction* (based on prototypicality) (Dion, 2000; cf. Horwitz & Rabbie, 1982: personal attractiveness vs. member attractiveness). The particular premise is that liking other members is different from liking the group (Hogg, 1992). This is based on the fact that liking group members depends on personal characteristics and their desirability, whereas liking the group is based on similarity between oneself and the group (Clement & Krueger, 1998). In particular, if the person perceives him- or herself to be a prototypical member or leader of the group, his or her social attraction is reinforced. Social attraction generates positive ingroup attitudes and negative attitudes toward outgroup members due to different stereotypes about both (Dion, 1973, 2000). On the other hand, unfavorable social comparisons may create horizontal identification with key reference groups outside the formal unit, and thus bring about the disintegration of the group.

In terms of empirical results, Hogg and Hains (1996) demonstrate that liking a person as a friend signifies personal attraction, which relates to similarity in attitudes and characteristics and interpersonal variables, whereas liking a person due to his or her group membership refers to prototype-based social attraction. Specifically, social attraction as group-membership-based liking associates with the quality of group processes (e.g., norms, conformity, stereotypes) (Hogg, 1992) and denotes depersonalized liking of the group based on member prototypicality (Dion, 2000). This, in turn, is influenced by group identification through self-categorization, intergroup status, and stability beliefs but not by interpersonal relations (e.g., the number of friends in the group) (Hogg & Hains, 1996). The object of the positive attitudes and feelings is the whole group (Hogg, 1992), and other members are liked not as individuals, but as prototypical embodiments of the group (Hogg & Hains, 1996).

Writing on the distinction between personal and social attraction, Wesbrook (1980) distinguished two foci of organizational bonding: an abstract and an interpersonal component. Thus, a person may bond with and commit to the whole unit as an abstract entity with a specific status, mission, history, and traditions or could be attached to the members of the unit. The interpersonal aspect comprises the quality of leadership and management displayed by the unit commander and its leaders, and the quality of social and leader support among other unit members (other than fellow squad and platoon members). The abstract component of organizational bonding refers to the collective identity, and the categorization of other unit members as members of a prototypical, unique, valuable organization.

In conclusion, *social identity theory* has influenced the development of research on small groups by broadening the focus research from formal groups to include informal group identities, linking individual with group phenomena (personal identity vs. social identity), and explaining the difference between friendship (personal attraction) and attraction to the group (social attraction). It has shown that people identify with and are involved in several distinct entities during their organizational membership (e.g., Lipponen, Helkama, & Juslin, 2003).

One of the main functions of the creation of *social identity* is to allow comparison between possible identities that could be created in other group formations. In terms of differences between the conceptions of social identity and *unit cohesion*, the development of the former is essentially an intergroup process in which the individual makes ingroup–outgroup categorizations in order to clarify his or her own social identity as a member of a certain group prototype. Cohesion, on the other hand, is more ingroup-oriented in that the main binding forces derive from similarities in background, values, attitudes, behaviors, and experiences among the members.

In the building up of a cohesive group, comparisons with other potential group memberships should be explicitly made only if the current group is more favorable with regard to a particular criterion and the comparison would end successfully in terms of satisfaction, instrumental achievements, or a more favorable characterization of the unit. Studying competing social identities and their effects on social relationships and group cohesion would shed more light on this issue. Social identity theory could be also utilized for studying different roles in the group, the association between roles and identities, and the effects of role uncertainty on unit cohesion. Social identities contribute to the social dynamics of small units that produce (predict) the changing pattern of relationships that constitute or result in unit cohesion.

2.2.11 COMMITMENT IN NESTED ORGANIZATIONS

Cohesion research is somewhat limited if *commitment* to the organization is not taken into account. Before turning to theoretical models of commitment and practical applications, however, I should clarify certain notions related to organizational cohesion. The research on unit cohesion applies the notion of bonding on the organizational-unit and institutional levels, whereas in typical occupational models organizational commitment merely refers to bonding with a work unit. The unit may be the largest organizational entity, in which case there is no confusion about the target of the organizational commitment. However, in models incorporating multiple organizational levels in which the institution is the largest entity, organizational commitment applies to more than one unit level, and could denote bonding with the both organization and the institution. Thus, in combination, organizational and institution bonding (in the literature on cohesion) have similar characteristics as organizational commitment (in occupational research).

Organizational commitment is the mechanism through which group members and small units are bound to the larger structure of which they are a part (McClure & Broughton, 2000). Commitment refers to an obligation or a bond to something (Sterling & Williams, 1982). The focus may be a person or a group of people (as in interpersonal relationships) or abstract ideas (such as organizational values) (Oliver, 1990). Kanter (1968) describes commitment as (a) the *continuance* of instrumental benefits (vs. costs) because of membership, (b) *cohesion* in the form of positive cathectic affective ties to the group, and (c) *control* drawing from the normative aspects (norms, demands, and sanctions). Yoon and Lawler (2005) identify three components of commitment: the instrumental, the affective, and the normative. Instrumental commitment refers to the perceived benefits of staying in the organization, affective commitment derives from an emotional / cathectic attachment to it, and normative commitment implies attachment to its moral values and norms.

Porter and his colleagues developed the *Organizational Commitment Questionnaire* (Porter, Steers, Mowday, & Boulian, 1974). They define organizational commitment as "(1) a strong belief in and acceptance of the organization's goals and values; (2) a willingness to exert considerable effort on behalf of the organization; and (3) a strong desire to maintain membership in the organization" (Mowday, Steers, & Porter, 1979, p. 226). In the present study, this definition describes the basic idea of secondary-group cohesion, which refers to the bonds and commitment of all unit members to their organization.

Mowday (et al., 1982) distinguish between two different types of commitment, attitudinal and behavioral. Attitudinal commitment refers to "a mind set in which individuals consider the extent to which their own values and goals are congruent with those of the organization" (ibid., p. 26),

whereas behavioral commitment refers to the process in which an individual's behavior binds him or her to the organization (Wright & Bonett, 2002). Attitudinal commitment (a psychological state) and behavioral commitment (behavioral persistence) (Meyer & Allen, 1991) are not totally distinct entities in that the former affects the latter, and vice versa (Solinger, van Olffen, & Roe, 2008). Furthermore, Mowday, Steers, and Porter (Mowday et al., 1982, pp. 27, 43; Porter et al., 1974, p. 604) conclude that organizational commitment refers to the relative "strength of an individual's identification with and involvement in a particular organization," and identify three different levels of determinants and consequences: the personal, the work-group, and the organizational level.

Gal (1985) breaks down the various aspects of organizational behavior in the military into three facets of commitment, organizational commitment, career commitment, and moral commitment. *Organizational commitment* implies identification with the organization's goals, purposes, and norms, *career commitment* the striving for success on the individual level, and *moral commitment* a belief in and willingness to live by the moral codes of the group. In a slightly different vein, Devilbiss and Siebold (1987) suggest that a person can be committed to task accomplishment, the organization, and a career. Ellemers, de Gilder, and van den Heuvel (1998) distinguished three different commitment components through confirmatory factor analysis: general organizational commitment, team-oriented commitment, and career-oriented commitment. In sum, commitment is not limited to the organization, and may have various abstract and more concrete foci.

An individual may have multiple commitments to the various aspects of group and organizational membership (Meyer & Allen, 1997; Stinglhamber, Bentein, & Vandenberghe, 2002) that together make him or her remain in the group and exert effort for the benefit of the organization (Lipponen, 2001). Meyer and Allen (1997, p. 2), for example, examined *organizational commitment* thoroughly at the individual level of analysis, and describe how a person can be committed to "work, group, manager, occupation, profession, career, and union." Although the nature of these ties varies, their communality is that they help to create cohesion in the primary and secondary group, although the process differs on different unit levels. For example, perceived team support and satisfaction among workers relate more to team than to organizational commitment (in self-directed groups) (Bishop & Scott, 2000; Bishop, Scott, & Burroughs, 2000). These results suggest that the quality of interpersonal relations links the individual through his or her commitment essentially to the primary group – more than to the organization.

Relational cohesion theory (RCT) offers an approach that views cohesion in terms of commitment and positive affect with the group (Yoon & Lawler, 2005). The basic premise is that people create ties to the group through social exchange (Lawler, 2001). Through frequent productive exchange the members generate mutual understanding that the group is a source of

predictable satisfying relationships and positive individual feelings (Lawler, Thye, & Yoon, 2000). The ties derive from affective ("expressive") attachment to the social unit and the instrumental benefits acquired through group membership, and are reproduced through shared, positive experiences among the group members and in task work (Yoon & Lawler, 2005).

In terms of motivation, Bass (1962; Bass & Dunteman, 1963) describes three main orientations toward group membership: (1) affiliation, referring to social orientation toward the establishment and the maintenance of satisfying interpersonal relationships, (2) task orientation toward the group goals, and (3) self-orientation toward the personal rewards that result from group membership. Carron and Chelladurai (1981) applied the same logic and identified three reasons for group membership: (1) associating and affiliating with people, (2) participating in a task and contributing to the group's success, and (3) obtaining personal rewards through association with the group. In sum, and according to Schein (1965), group membership (a) fulfills the person's affiliation needs, (b) confirms a sense of identity and offers self-esteem, (c) provides and validates a social reality, (d) increases security and a sense of power, and (e) enhances job and task performance.

Of all the aforementioned models, Meyer and Allen's (1984, 1991, 1997) model of *organizational commitment* is the generally accepted one. They describe organizational commitment as a multidimensional construct encompassing three distinct components: the desire (affective commitment), the obligation (normative commitment), and the need (continuance commitment) to stay in an organization (Meyer & Allen, 1991). In other words, there are three psychological ties that bind: "emotional attachment," a "feeling of obligation," and "perceived costs associated with leaving" (Allen, 2003, pp. 237-238). Yoon and Lawler (2005, p. 8) contend that this distinction respects Parsons' (1951) and Kanter's (1968) view that a person's "attachment can be instrumental (utilitarian), affective (emotional), or normative (moral)."

Affective commitment (AC) denotes an individual's emotional attachment to the organization (Meyer & Allen, 1991, 1997). It has two subcomponents, identification with and involvement in the organization (Mowday et al., 1982). Inherent in AC, and particularly in identification, is the notion of emotional bonding with the organizational identity (Yoon & Lawler, 2005). AC thus represents a general psychological orientation to the organization and membership in it, and therefore has broad implications in terms of attitudes and behavior (Meyer & Allen, 1991). It both strengthens loyalty and obedience to the expectations and values of the unit and relates to tenure in the organization (Mathieu & Zajac, 1990). It promotes sociability, trusting interaction, voluntary cooperation among group members (Yoon & Lawler, 2005), and an intent to stay: employees continue to work in the unit because they "want to do so" (Meyer & Allen, 1991, p. 67).

Normative commitment (NC) mirrors "a feeling of obligation to continue employment" (ibid., p. 67), referring to the responsibility to remain with the

organization due to 'a moral obligation' or 'calling' (it is not merely a job) (Gade, 2003; Meyer & Allen, 1997). It thus represents "the ought to of commitment" (Gade, 2003, p. 164), and is created through the internalization of loyalty and devotion to the organization. Therefore, shared NC entails the normative pressure to act in accordance with organizational goals and interests (Wiener, 1982). This normative pressure and commitment are generated through socialization tactics and experiences in the early phases of the socialization process (Jones, 1986; Meyer & Allen, 1997). Research suggests that AC and NC are strongly interrelated and therefore demonstrate very similar effects in outcomes (Karrasch, 2003).

Continuance commitment (CC) "refers to an awareness of the costs associated with leaving the organization" (Meyer & Allen, 1991, p. 67, 1997, p. 11) and the willingness to continue with a certain line of action (Meyer & Allen, 1984). Perception of the costs (why the person stays in the organization) determines CC – "not the existence of the costs themselves" (Allen, 2003, p. 242). CC relates to aspects of social exchange theory (Homans, 1961; Thibaut & Kelley, 1959) in arguing that satisfaction with continued participation is a function of perceived profits minus costs (Ko, Price, & Mueller, 1997; Yoon & Lawler, 2005). Basically, the person stays in the unit because the perceived costs of leaving are too high (Cota et al., 1995; Kanter, 1968), and because of the threat of losing accumulated benefits (Eagly & Chaiken, 1993; Meyer & Allen, 1984; 1991). A person with strong CC "has to" (Meyer & Allen, 1997, p. 56) or "needs to" (Gade, 2003, p. 164) stay in the organization because there is no sense in leaving it.

Becker (1960) discovered that commitment develops when a person makes side bets, which refer to any valuable investments he or she has made or obtained (Meyer & Allen, 1984; Tremble, Payne, Finch, & Bullis, 2003). Investments comprise the total amount of resources put into relationships and organizational membership that cannot be retrieved if the membership ends (Yoon & Lawler, 2005). They include the time and effort devoted to the work in the organization, and the subsequent organizational benefits could be pay, status, skills, job freedom, or friendship among group members (Meyer & Allen, 1984). In fact, anything that increases the perceived costs of leaving is salient to CC (Meyer & Allen, 1997).

Together with personal investments and organizational benefits, the availability of alternatives defines the strength of CC (Meyer & Allen, 1991). The availability of alternatives is "the totality of benefits of a current relationship relative to those obtainable from alternative relationships" (Yoon & Lawler, 2005, p. 3). For someone who has no relevant alternatives to organizational membership, the perceived cost of leaving may be even higher (Meyer & Allen, 1984). Conversely, feasible alternatives entail weaker CC among employees (Meyer & Allen, 1997). Organizations whose members have low comparison levels for alternatives, such as military units and religious sects (Secord & Backman, 1964), are more likely to retain their members than other types of units.

The literature on organizational psychology has adopted Meyer and Allen's three-component model (TCM) of commitment, although improvements have been suggested and its domination has been challenged. The main critique targets the conceptualization. Solinger and his colleagues (2008) argue, in accordance with the attitude-behavior model (Eagly, 1992), that TCM combines fundamentally different phenomena: AC refers to a general attitude towards the organization whereas NC and CC "are attitudes regarding specific forms of behavior (i.e., staying or leaving)" (Solinger et al., 2008, p. 70), and assess the anticipated outcomes of the act of leaving. As an improvement they (ibid.) suggest examining affective, cognitive, and behavioral aspects of organizational commitment based on a singular, attitudinal definition of commitment (cf. Mowday et al., 1982). Ko and his colleagues (1997, p. 971) offer another solution in defining commitment as "loyalty to the organization," emphasizing affective attachment to the unit. In sum, the relevance of affective commitment as a measure of identification with and attachment to different foci is acknowledged, but the use of CC as a measure of overall commitment has been criticized. All in all, organizational commitment could be considered parallel to the relationships group members have with their primary- and secondary-level groups and thus an aspect of unit cohesion.

2.3 THE COMPONENTS OF UNIT COHESION: AN OVERVIEW

Unit cohesion comprises several components based on different structural relationships: horizontal or peer bonding among members on the same hierarchical level, vertical bonding between those on different levels, and organizational bonding (e.g., between unit members and their larger organizational entities) (Griffith, 1988; Siebold & Kelly, 1988a, 1988b). The contention in this study is that, hierarchically, the model comprises two main levels, primary-group and secondary-group cohesion. Primary-group cohesion includes peer and leader-subordinate cohesion. Alternatively, cohesion on this level could be evaluated based on the combined strength of social and task cohesion. Whereas *social cohesion* builds on the affective, emotional relationships between group members and leaders, *task cohesion* is influenced by the quality of the instrumental, task-related functions that extend to the unit level (Figure 2). On the other hand, secondary-group cohesion comprises *organizational cohesion* (created through the bonding of the personnel with their closest higher organization such as the unit or department), and *institutional cohesion* (denoting the degree to which the group members identify with their organization's institutional characteristics).

The social-integration model posits two dimensions of cohesion. Primary-group cohesion builds on the affective, emotional relationships existing between the members and the leaders and is influenced by the quality of the group's instrumental, task-related functions (as defined by Griffith, 1988; Siebold & Kelly, 1988a, 1988b). On the other hand, secondary-group cohesion, although both affective and instrumental, depends on the exchange of various benefits and the sense of purpose generated by the organization to secure loyalty and obedience from the group members. Together these components and dimensions constitute a psychological force field that binds the members to the group and to the organization, and represents nested foci that an individual can commit to or bond with (Figure 2).

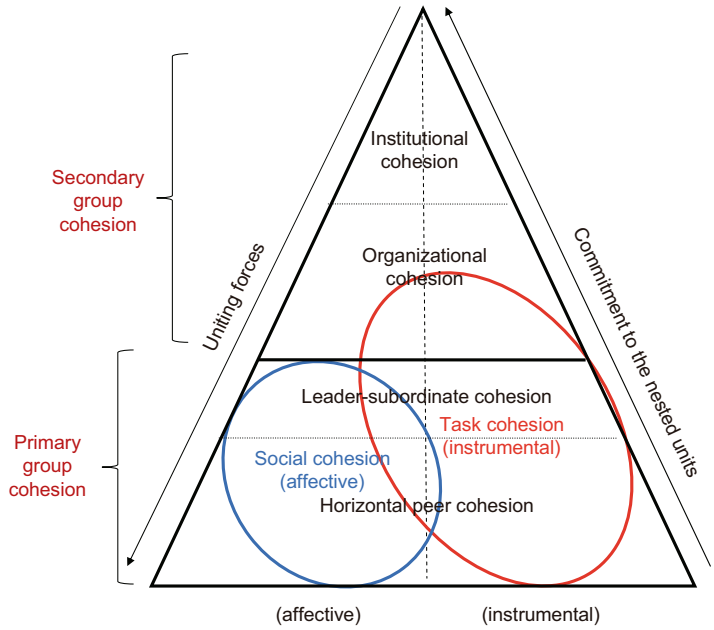

Figure 2 Components of Unit Cohesion

Unit cohesion refers to the social-relationship products of *social integration* generated by positive social and task-related relationships among members (peers and leaders) and their shared, uniting experiences as members of specific groupings (e.g., nested group, organization, and institution). Specifically, it is created or destroyed through an ongoing social (dis)integration process involving members of the primary group, group leaders, and the larger secondary organizations of which the primary group is a part. This view places cohesion within a larger perspective and facilitates the identification of significant connections with organizational behavior and processes (cf. the standard model of cohesion in Salo (2006a, 2006c), Salo and Siebold (2005), and Siebold (2007)).

Social integration is influenced by social control, the quality of interpersonal relationships, the quality and quantity of instrumental, task-related results, and organizational experiences. Social control is created through the socialization process that allows the organization to integrate new members into the symbolic, social, and cultural life of the unit. It is reinforced by people's need for approval of their attitudes and behavior. This results in social comparison, which exerts pressure to conform to organizational values, appropriate attitudes, and behavioral standards. Task experience is apt to increase cohesiveness in setting the conditions for carrying out effective task work and developing people's sense of collective efficacy. Social experiences facilitate social integration to the level of which teamwork, emotional support, and personal relationships are satisfying and support personal well-being in the group. Organizational experiences encourage social integration by supporting adjustment to the organization in the following ways:

- Ensuring organizational support and fairness;
- Guaranteeing trustworthy, capable command and management;
- Sharing rewards, recognitions and benefits;
- Providing challenging work experiences;
- Fostering personal growth and development in training and education;
- Promoting career developments;
- Linking the members with meaningful goals and mission statements;
- Structuring identifiable unit and an institution.

Combined, these normative, social-emotional, instrumental, and organizational forces unite the group members, sustain the structure, and positively affect what the individuals do as a group.

On the individual level of analysis, the cohesion components are the main factors through which social identity is formed (cf. social identity theory and Hogg, 1992). The more tightly integrated the members of a group are in terms of peer, leader, organizational, and institutional bonding, the more difficult it is to pull them apart, the more capable they are of joint action, and the more they may invest in their interpersonal relationships (cf. Shils & Janowitz, 1948). It is assumed that cohesion is stronger in groups with more levels of bonding, meaning more reason for being together. However, this does not mean that every group must have all these four components in equal measure. One or more levels of bonding may be missing due to the nature of the group, and only some functions or elements of cohesion may be salient. A socially oriented group, for example, may not be interested in task-related functions or may not be part of any organization or institution.

Cota (et al., 1995) suggest dividing cohesion measures into primary and secondary factors, of which the former is relevant and present in all types of groups whereas the latter is distant and varies depending on the group. It is worth pointing out the difference between these two notions: although secondary-group cohesion could be considered a secondary factor in some groups, it could equally well be the primary reason for group membership. In

all, the notion of primary and secondary factors of cohesion could facilitate understanding of the relevant and meaningful predictors of unit cohesion.

The four-component model of cohesion is generally associated with Carron and his colleagues' (1985) multidimensional model of cohesion with its task-social and individual-group dimensions. Moreover, in terms of the main parts, it is congruent with the exemplary works of Gal (1986b), Griffith (1988), and Siebold and Kelly (1988a, 1988b), with their focus on peer and vertical cohesion and commitment to the whole group and the larger organization. The main benefit of this study is that it brings the diverse conceptualizations of cohesion together, displays their differences, and proposes a coherent model that unites the previous research on cohesion and commitment. Namely, its novel contribution to the literature on cohesion lies in the hierarchical framework depicted in Figure 2, which identifies the basic components of cohesion and also distinguishes its main dimensions and functions in groups.

Despite the above considerations, cohesion research often only examines part of group bonding (e.g., social cohesion or task cohesion), and secondary-group cohesion typically does not feature in the research design. Most studies of relevance to institutional bonding are not linked to cohesion, which is measured in terms of affective, instrumental, and continuance organizational commitment (Meyer & Allen, 1984, 1991, 1997). In particular, there is very little research on the differential impact of the components on various criteria and there has been little effort to distinguish primary-group relationships from those on the secondary level.

This study expands previous conceptualizations of cohesion and commitment in emphasizing the fact that on the secondary-group level it may entail more than organizational bonding (e.g., Salo & Siebold, 2005). Moreover, it clarifies the relations between individual-level commitment and group-level unit cohesion specifically in identifying the major foci of commitment on different hierarchical levels and encompassing both social and task orientations. On a more general level, the current research combines it the various individual aspects of group cohesion into a coherent framework that adds clarity to the research on cohesion and commitment. It also unites diverse conceptualizations of cohesion, highlights the differences, and offers a coherent model that synthesizes the previous research (cf. Figure 2 and Figure 4).

3 THE TOTAL FIELD OF FORCES – PREDICTORS AND MODERATORS OF UNIT COHESION

The same fundamental elements (Wesbrook, 1980) which could be termed the primary components of cohesion (Cota et al., 1995), affect cohesiveness in both primary and secondary groups. In addition, each component has unique antecedents and mechanisms that influence cohesion in particular situations (the secondary type of predictors). No two groups will have developed cohesion through exactly the same process or have been influenced by the same combination of uniting forces. Thus every group has its *unique profile* of cohesion components.

The weight of the predictors varies depending on the component and the situation of the group. For example, leadership may facilitate the creation of all four components, but the leader's behavior has potentially different effects on them. Sometimes the same factor increases the effect of one component but decreases that of another. The leader who applies harsh methods for controlling and training his or her subordinates, for example, enforces them to bond with one another in order to receive emotional support and an enhanced sense of security, and leader-subordinate and organizational bonding most likely suffer. On the other hand, a leader who is highly competent and popular within the group creates strong primary-group cohesion, but might if he or she does not support the organizational goals and the management turn the whole group against the unit and the institution, resulting in low secondary-group cohesion in that unit.

Forces uniting group members with the organization are legion, and it may be impossible to understand the whole complexity of relations between different forces in the group and their associations with cohesion. However, if we put all the forces on the table we might discern numerous combinations of effects on the components that would enhance understanding of the cohesion phenomenon. The following sections summarize the internal and external personal and group factors that bind people together in the unit, as identified in the literature. For the sake of simplicity, cohesion predictors comprise (a) individual characteristics that help an individual to commit to a group, (b) the structural properties of a group, (c) social-process characteristics of a primary group (e.g., social and leadership experiences), and (d) organizational experiences in the secondary group.

3.1 INDIVIDUAL CHARACTERISTICS ASSOCIATED WITH UNIT COHESION

Personal-background factors reflect surface-level distinctive demographic characteristics (e.g., age, gender, and race) and deep-level underlying characteristics (personality, traits, values, skills, and knowledge) (Knouse, 1998). *Age* does not consistently explain primary-group cohesion, but it is associated (to some extent) with secondary-group cohesion, and particularly with organizational commitment. Siebold (1996), for example, did not find any differences in cohesion among squad members based on variation in age, education, or home state, whereas McClure and Broughton (2000) reported a positive association with age, pay grade, and being married. Meyer and Allen (1984) found a positive relationship between age and affective commitment, suggesting that older people have justified their longer tenure and/or have received enough in terms of rewards and position to increase their satisfaction with and commitment to the organization. Mathieu and Zajac (1990) confirm this finding, showing in their meta-analysis that age is positively (but weakly) related to affective commitment even when tenure was controlled for.

Gender has more complicated relations with group behavior than age does. It does not determine the degree to which the individual bonds with and commits to the organization (e.g., Karrasch, 2003; Lee & Farh, 2004; Mathieu & Zajac, 1990), but it may affect the primary-group relations and processes that in turn influence peer and vertical cohesion in the group. In the context of the military unit, for example, Smith and Hagman (2004) report that women exhibit lower level of cohesion in their primary group than men. Rosen, Bliese, Wright, and Gifford (1999) examined the relationship between gender composition and group cohesion, and found in their meta-analysis that a higher prevalence of women in U.S. Army units was associated with lower levels of primary-group cohesion among the men. Basically, men seem to prefer other men as group members (Hadid, Evans, Yanovich, Luria, & Moran, 2008). Moreover, men experience organizational-climate variables more positively in male-only units than in mixed-gender units (Rosen, Knudson, & Fancher, 2003).

Outside the military, men and women seem to be able to form cohesive teams in work units more easily (Sánchez & Yurrebaso, 2009). The military situation, in which women are relatively new participants in a male-dominated institution (Pershing, 2006), may be a moderating factor in the association between gender and primary-group cohesion. Rosen and her colleagues (2003) further examined the impact of the military atmosphere on group cohesion, and showed that hypermasculinity was positively related to both horizontal and vertical cohesion in male-only units, whereas women's presence significantly decreased such perceptions. The military culture by nature endorses hypermasculinity characteristics such as "'warrior' values of toughness, independence, and aggression" (ibid., p. 343), and the presence of

women as peers challenges this. The main question is "whether men feel comfortable with women as peers" in military units (Sinaiko, Segal, & Goldich, 1984, p. 3). The impression from the studies mentioned above is that neither party is satisfied with their units in terms of group cohesion (based on mutual trust, helping, loyalty, and social and task support).

Similarly in sports, Carron (1982) found that men and women had different orientations: a game offers men the opportunity to compete and beat the opponent, whereas women take part in order to socialize and interact with their team mates and opponents. The conclusion is that the group atmosphere (e.g., hypermasculinity) and experiences favor men more than women in units in which competition and performance are of value. Therefore, mixed units may be better for duties that are not directly related to situations in which cooperation and social and task support are the cornerstones of satisfactory group experiences. Correspondingly, when the training or the duties emphasize competition, performance, and the killing of enemy-group members, single-gender (or male-only) units may produce stronger primary-group cohesion.

It is argued that *marital status* also affects group cohesion in that single members can spend more time together than their married peers who have obligations in civilian life as well, and who are not able to participate in all off-duty activities (Todd, 1992). Nevertheless, research results indicate that *marital status* is not meaningfully related to primary-group cohesion (Siebold & Lindsay, 1999), nor is it associated with affective commitment (Meyer & Allen, 1997).

In terms of other background variables, Siebold and Lindsay (1999) report no effect on group cohesion based on *race* or *ethnic homogeneity*. On the other hand, Griffith (2002) found that *minority* soldiers in terms of ethnic background were more likely to remain in their units and in the Army despite their lower levels of identification with both (i.e., secondary-group bonding). Siebold (1996) also notes that people with a *marginal status* in the group experience cohesion and the unit culture less positively and sometimes in a more objective way. Again, there may be many intervening variables that affect the relationship between member differences and cohesion. However, the main conclusion is that, despite their diverse background and different abilities, people are able to create strong affective and instrumental relationships with one another, particularly when group experiences and leadership support integration.

In terms of social identification, individual properties may increase personal attraction between group members (i.e., friendship, appreciation, and trust), whereas social attraction as a group phenomenon is only indirectly influenced by individual characteristics (Hogg, 1992). This explains the positive effect of personal background on interpersonal relations and interaction (due to personal liking/attraction), and its weaker impact on group cohesion (due to the lack of a relationship between personal characteristics and the social attraction of the group members). The

implication is that group cohesion is more dependent on the quality of group properties and processes such as norms, unity of purpose, group-formation processes, and social and task support than on individual properties (Siebold & Lindsay, 1999).

Demographic *homogeneity* (i.e., mechanical solidarity) (Butler et al., 1987) may indeed support the initial cohesion of the group on account of its members' perceptions of easier communication, less distrust, the attractiveness of other members, and more straightforward working relationships. Particularly at the early stages of group formation (Tuckman, 1965, 1970), common characteristics may facilitate interaction (Newcomb, 1953; Savell, Teague, & Tremble, 1995) and social categorization (Christian, Porter, & Moffitt, 2006), and create affective cohesion (Griffith, 1988; Siebold, 1996). For example, similar physical traits may increase perceptions of common psychological attributes, thereby supporting perceived *entitativity* (i.e., cohesion) (Dasgupta, Banaji, & Abelson, 1999; Ip, Chiu, & Wan, 2006).

Diversity in terms of members' backgrounds produces a broader set of ideas and skills that could be of use in fulfilling certain tasks (Chiocchio & Essiembre, 2009; Christian et al., 2006; Hornsey, Dwyer, & Oei, 2007; Knouse, 1998). Henderson (1985), for example, points out how cohesive units in heterogeneous societies are ethically similar, communicate effectively, share the dominant norms of the secondary group, and do not form autonomous minority groups. On the other hand, diversity may result in intragroup conflicts among members due to its association with fewer communalities, more mixed expectations, more misunderstandings, and less trust (Knouse, 1998). All in all, the association between background factors and group cohesion depends on the situation and on the degree to which people from similar backgrounds share similar attitudes (Wesbrook, 1980). It seems likely that personal-background factors are related only indirectly relation to group cohesion via the members' *common attitudes and values*.

It could thus be concluded that basic demographic factors are only minimally related to primary- and secondary-group cohesion compared to leadership quality and intragroup dynamics (Mangelsdorff, 1999; Siebold, 1993; Siebold & Lindsay, 1999). The reason why personal characteristics do not meaningfully explain social relationships derives from the old adage that "the relation between two people is a function of more than their characteristics as individuals" (Secord & Backman, 1964, p. 236). Without an understanding of the unit's internal conditions (Siebold & Lindsay, 1999), no study can explain the logic of social dynamics and small-unit integration.

Personality composition and *differences* may affect group cohesion more than personal background, although in this case, too, the effect appears to be low (Webber & Donahue, 2001). Certain personality characteristics increase the likelihood of involvement in a highly cohesive group (Etzioni, 1975). Johns and his colleagues (1984, p. 35) identified certain personal values that made the fit to the organization easier and facilitated cohesion, such as the

"willingness to sacrifice personal welfare for group welfare, desire to belong to a structured group, a sense of community obligation, and respect for authority." Despite all background and personality differences, there is a good chance of having a highly cohesive group if the social and leadership experiences are positive and satisfy the personal needs of its diverse members (Lewin, 1948; Siebold & Lindsay, 1999). In fact, personality differences are more likely to be intervening factors that affect unit assignments, performance, and personal stress reactions more than group cohesion (Griffith, 1986b).

Given that cohesion is a group phenomenon (Gal et al., 1987; Griffith, 1987; Gully et al., 1995), its association with individual personality traits may reflect a particular kind of personality structure or composition. The psychological abilities of group members influence their social relations and task performance. Specifically, better aptitude scores contribute to better group performance (Winkler, 1999). It has been found that the whole mix of individual traits (group personality composition) is required for successful group performance (Barrick, Stewart, Neubert, & Mount, 1998; Halfhill, Nielsen, Sundtrom, & Weilbaecher, 2005), indicating that a suitable group composition results in better performance and thus contributes to cohesion. On the other hand, conscientiousness as a task-related group norm for paying attention to (performance) detail facilitates group performance, team agreeableness promotes social norms (Barrick et al., 1998; Halfhill et al., 2005), and both conscientiousness and agreeableness contribute to task cohesion (van Vianen & De Dreu, 2001). According to Halfhill and his colleagues (2005), minimum and average scores on agreeableness and conscientiousness promote both group-level performance and group synergy, and the effect is attributable to the way the group composition (on some relevant traits) enforces group norms that, in turn, support performance and cohesion. In other words, groups comprising the members who agree with social norms and have a certain level of task orientation build up stronger cohesion than groups in which the members have diverse perceptions of its relevant functions and processes.

Shils and Janowitz (1948) emphasize the significance of *hard-core* soldiers in ensuring stability, solidarity, and military effectiveness in primary groups. The presence of a few excellent men facilitates the processes of incorporation and identification among those with weaker morale through role modeling, norm creation, and norm enforcement. The group achieves a higher level of instrumental cohesion (Kosonen, 2003), which positively affects its efficiency.

Hardiness among group members positively affects unit cohesion (Bartone et al., 2002). Strong hardiness relates to a proactive lifestyle, a sense of meaning in life, the feeling of control, a sense of being able to influence things, pride in one's work, and openness to life's challenges (Bartone, 2000; Bartone & Adler, 1999). A hardy person interprets stressful situations as challenging, adopts positive coping strategies, and perceives

such experiences as beneficial and worthwhile for personal development (Bartone, 2000; Bartone et al., 2002). Hardiness and leadership interact to predict unit cohesion in stressful training exercises (Bartone, 2000; Bartone et al., 2002), implying that shared challenging experiences under good leadership promote unit cohesion. All in all, hardiness is an individual property that resembles the characteristics of strong unit cohesion – shared commitment, control, and challenge.

Sociability facilitates the group-formation process and the creation of a cohesive group. It is positively associated with group-based liking (i.e., social attraction) (Hogg, 1992), and therefore helpful, pleasant, and considerate people (Mikalachki, 1969) are more likely to be found in highly cohesive groups. People whose behavior promotes satisfaction and positive experiences in others are more likely to be valued in the group (Jennings, 1950). Their own adjustment to the group and consistent, cordial, sensitive, and helpful behavior increase their personal attractiveness among the other members (Lott & Lott, 1965). In addition, sociable people get along with their leaders and have a more positive orientation toward the unit than their less sociable peers (Etzioni, 1975). Furthermore, other interpersonal personality characteristics such as extraversion and emotional stability support social cohesion in the group (Barrick et al., 1998; van Vianen & De Dreu, 2001) as does mental and physical efficacy among the members (Hirschfeld & Bernerth, 2008).

Personal attraction (as friendship-based liking) is grounded in the quality of specific interpersonal relationships (Evans, 1962) and is generated by positive attitudes, feelings, and experiences about the person as a unique individual with certain characteristics (Hogg, 1992). People associate with those with whom they have pleasant, enjoyable, and friendly interaction (Northway, 1947b). Frequent interaction (Homans, 1980) and common experiences (Jowett & Chaundy, 2004) increase liking among people, and when they like one another there is a higher probability of identification with the group (Hogg & Hains, 1996; Mikalachki, 1969). The friendship network thus influences emotional attachment to the group (e.g., creating affective peer cohesion) (Paxton & Moody, 2003).

In practice, *friendship* and group cohesion co-exist (Festinger et al., 1950; Hogg, 1992; Hogg & Hains, 1996; Mason & Griffin, 2003). Some researchers even define cohesion based on the extent to which people have close friends in their unit (Price & Mueller, 1986). However, friendship is more likely to be an antecedent of cohesion (Butler et al., 1987; Lott & Lott, 1965) than its core component. In other words, liking other group members (i.e., interpersonal attraction) is only indirectly related to group cohesion through determining friendship among members. According to Hogg (1992), interpersonal attraction and friendship go together but are theoretically independent of social attraction, which is based on identification with the whole group.

The link between friendship and cohesion is evident in the military, in which the friends form close personal arrangements as buddies or small

teams (Hult, 2002; Kviz, 1978). The *buddy system* is apt to create a sustaining affective structure for the maintenance of synergy by establishing regular association, communication, and information flow among the group members (Harinen, 2001; Hult & Harinen, 1999; Secord & Backman, 1964). Buddy relationships entail reciprocated social support particularly in times of stress and danger, which in turn unites the group members in a functioning social and instrumental entity (Little, 1964). Thus, informal relationships constitute a "safety net" that supports the functioning of the group (Harinen, 2001; Harinen & Hult-Miekkavaara, 2010). In sum, buddy relationships have at least two functions: they serve the social, emotional, and survival needs of individuals, and unite the members as a group.

Sociometry quantifies interpersonal relationships (Bjerstedt, 1958), reveals the social and friendship structure in groups (Loomis & Pepinsky, 1949; Moreno & Jennings, 1947; Northway, 1947a), and identifies social problems among members (Rovio, Eskola, Salmi, & Lintunen, 2007) in terms of the number of deviates (Northway & Weld, 1957). It is also used to assess the relative personal status of group members through the calculation of the number of times an individual is chosen as a preferred person for certain actions (e.g., as a friend, a co-worker, or a group member) in sociometric questionnaires (Borgatta, 1968; Dion, 2000; Harinen, 2001; Northway, 1967; Northway & Weld, 1957). Sociometric results (e.g., social-acceptance scores or friendship choices) typically form a J-curve, meaning that a few people receive the lion's share of the votes and the majority of the members receive notably fewer nominations than would be expected by chance (Evans, 1962; Moreno, 1949; Northway, 1947a, 1967). Moreno (1949, p. 8) refers to this phenomenon as a result of "sociodynamic law."

Sociometric studies have shown that a person chooses another person with whom to interact or work because of physical proximity (e.g., ease and likelihood of interaction), valued abilities (Secord & Backman, 1964), shared experiences or problems (Jennings, 1977), a similar status in a group (Lott & Lott, 1965), a similar orientation (Newcomb, 1953), or similar characteristics (Eisenstadt, 1969; Hare, 1962) in terms of attitudes, values, and background (Homans, 1961; Secord & Backman, 1964).

The choice of a person as a group member derives not only from his or her personal attributes but also from matters related to group life and particularly to the specific *value the person has* in the group. In sociometric terms, the more frequently chosen people are also more likely to conform to group attitudes and values (Newcomb, 1943; Secord & Backman, 1964), whereas those who deviate from the norms are less likely to be selected as friends (Festinger et al., 1950). Thus, the selected people are more likely to represent the group ideal and the values of the members (Evans, 1962). By way of confirmation, Hogg and Hains (1996) showed that highly prototypical members who identified with the team were also chosen as interpersonal friends ($r = .40$, $p < .01$).

Hare (1962, p. 139) termed the "'four filters' for becoming the true friend" as (1) the proximity of the person and similarities in (2) personal characteristics, (3) interests and values, and (4) personality. In terms of exchange theory, an individual is chosen as a friend because of his or her superior social and emotional ability to reward others on account of their skills, knowledge, support, and performance for the benefit of their peers (Thibaut & Kelley, 1959). Overall, past research (Festinger, 1950, 1954; Festinger et al., 1950; French & Mensh, 1948; Lindzey & Byrne, 1968; Lott & Lott, 1965; Newcomb, 1943; 1961; Thibaut & Kelley, 1959) has related friendship choices to:

- Propinquity;
- Compatible norms and values;
- Socially valued traits and abilities (e.g., IQ and better performance);
- Similarity in attitudes and social background;
- Social adjustment to the group.

Perhaps even more interesting is the way in which social-choice differences highlight the different roles that are occupied in the group (Loomis & Pepinsky, 1949; Northway & Weld, 1957; Rovio et al., 2007). For example, those who are responsible for group success and goal achievement are more attractive (Hogg, 1992). Similarly, people who facilitate group functioning (Haythorn, 1971; Rovio et al., 2007) and provide the most value to other members in terms of help, support, encouragement, and protection (Jennings, 1950) are overrepresented as nominees in tests (Homans, 1961). In particular, informal and formal leaders receive more nominations because they take care of planning group activities, set goals, direct processes, and support people in their problems (Evans, 1962). Similarly, a standard group member is valued when he or she conforms to others' expectations (Hollander, 1970), directs his or her effort toward valued activities (Northway, 1967), contributes to the group situation by facilitating interaction, for example (Secord & Backman, 1964), providing help and support to its members (Jennings, 1977), and making personal sacrifices on behalf of the other members (Levine & Moreland, 1990). Whatever the reason for the higher choice status, the more frequent selection rate indicates more social potential and influence relative to other group members (Bandura, 1986; Levine & Moreland, 1990).

The *status of the leader* indicates the extent to which the members bond to and identify with his or her, and sociometrics can reveal leadership status and potential (Izard, 1959). Status in this sense is not the same as headship, although leadership and headship overlap (Evans, 1962). Traditionally, headship is indicated by the formal *rank* that designates the organizational status and position in the unit (Etzioni, 1975). Rank reflects some characteristics that are related to personal background such as intelligence and personality traits (Porter & Lawler, 1965), which often imply a better educational level, and more positive attitudes or abilities for the leader position. A higher rank is associated with more diverse career intentions

(Tremble et al., 2003), better well-being, stronger identification, personal readiness, less disintegration (Griffith, 2002), more positive attitudes and perceptions in general (Siebold, 1996), and stronger commitment to the organization (Britt, 1999). Moreover, other group members tend to value positive, highly committed people (based on sociometric tests) (Thibaut & Kelley, 1959).

Porter and Lawler (1965) attribute the more positive perceptions of leaders to the fact that people of higher *rank* believe in getting more from their job, and conversely, put more into it. Zaccaro (1981) showed that, regardless of rank, group members who assume more personal responsibility for group performance also value their own abilities, efforts, and performance more highly. Furthermore, in the context of sports Carron and Chelladurai (1981) found that athletes with leadership responsibilities most strongly perceived cohesion in the group. The leader justifies the group goals, habits, and standards, which binds him or her to the group and its purpose. Consequently, this shows in higher levels of personal performance, more positive attitudes toward the unit and the institution, and stronger bonding with peers and their own leaders.

In conclusion, personal-background factors have only limited value in explaining cohesion in the unit. In other words, people from different backgrounds and with different characteristics are able to create a united group. More precisely, diversity in personal characteristics does not influence cohesiveness if people share attitudes. Moreover, the results of previous research indicate that personal variables such as age, gender, race, marital status, and educational background do not directly influence cohesion, but may affect personal commitment to the group and units, which in turn may have an indirect impact on primary-group cohesion. The implication is that an organization should take personal characteristics into account when forming groups in order to enable friends to work together, balance the differences between individuals' skills, knowledge and attitudes, and utilize the diversity among the members in the allocation of tasks and the selection of leaders.

3.2 STRUCTURAL PROPERTIES OF A GROUP THAT SUPPORT UNIT COHESION

The characteristics of the group and the unit form a unique set of uniting forces that influence cohesion. The way the group is built up affects its processes, the execution of the work and tasks, and eventually its cohesion and performance. For example, unity of the purpose, shared goals, and common tasks and functions are structural characteristics that may support social integration among group members. Similarly, the size and type of group, functional distance at work, and physical proximity in dormitories

and offices are ecological characteristics that seem to facilitate unit cohesion. These group properties vary substantially depending on the situation and are not necessarily equal or even salient in every group. Thus, many of the variables discussed in this section are also presumed to be mediators or moderators of cohesion.

Group size limits cohesion because the number of members in a subunit is negatively related to the level of cohesion (Henderson, 1985; Mason & Griffin, 2003; Seashore, 1954), although non-significant relations have also been reported (Schwarz & Schwarz, 2007). Generally, smaller groups have better identification (Lipponen, 2001; Lipponen, Helkama, Olkkonen, & Juslin, 2005), satisfaction, attendance, retention (Porter & Lawler, 1965), group processes, and cohesion compared to larger units (Carron & Spink, 1995). Similarly, task cohesion has an inverse relation to group size (Mason & Griffin, 2003; Widmeyer, Brawley, & Carron, 1990). The effects of increasing the size of the subunit beyond a certain number are therefore not necessarily positive with regard to social integration (Schein, 1965). It would be of relevance to know what kinds of subunit sizes are functional in terms of supporting social involvement and task attainment.

Increasing the *size of the group* has direct effects on its dynamics (Levine & Moreland, 1990) in terms of interaction, communication, coordination, leadership, shared decision-making, and members' perceptions of their responsibilities (Carron & Spink, 1995). When a group grows beyond its optimal size, mutual awareness (Schein, 1965), consensus (Bliese & Halverson, 1998) and coordination (Keller, 1986) deteriorate, the extent of formal leadership and autocratic decision-making increases (Carron & Spink, 1995), maintaining communication quality with all group members becomes more difficult (Lowry, Roberts, Romano, Cheney, & Hightower, 2006), and more task specialization is required, which tends to decrease job satisfaction and cohesion (Porter & Lawler, 1965). Basically, a large group inhibits interaction among members which is a necessary condition for the development of cohesion (Mikalachki, 1969). In sum, a group size and structure that allows face-to-face interaction and joint activities is the most beneficial for developing cohesion and facilitating performance (ibid.).

Relatively *small, autonomous groups* tend to have the strongest cohesion (Carron & Spink, 1995; Griffith, 1986b). A large unit could therefore sustain its cohesion through the formation of small coherent sub-groups that link the members to distinct small teams (Porter & Lawler, 1965). Studies on the span of control suggest a size limit for a group, such as between three and six subordinates to a leader (ibid.). It has also been found that work groups of between three and six members are more productive and advanced in terms of development than larger groups (Wheelan, 2009). With regard to sport teams, Carron and Spink (1995) suggest that group size and social cohesion have a curvilinear relationship, having found that the three-person group had the lowest of cohesion and the six-person group the highest, whereas the larger groups had lower levels of social cohesion. In general, the literature on

cohesion advocates three to five members and a formal leader as the optimum configuration (Henderson, 1985). A group of this size could be divided into two teams forming a three-person buddy system that integrates the members and profits them most effectively in terms of social and task support (Karis, 1988).

Although a small group size contributes to cohesion, it does not guarantee its development (Mikalachki, 1969). For example, *cliques* as small sub-group formations have a negative effect on communication and interaction (ibid.), and disrupt the cohesion and effectiveness of the unit (Festinger et al., 1950). Cliques are based on shared attitudes or abilities that deviate from the general values and attitudes in the unit. Moreover, the probability of clique formation increases as a function of an increasing group size (Hare, 1962). On the other hand, team-building interventions may mitigate the negative effects of a large group size and small, isolated cliques, smoothing the differences between the subgroups and increasing cohesion (Carron & Spink, 1995).

Physical closeness and proximity advance cohesiveness. Proximity offers the opportunity for interaction (Secord & Backman, 1964; Shaw, 1981): indeed, interaction among people who are physically close is easier and costs less in terms of time and effort than among people who are distant (Homans, 1961; Thibaut & Kelley, 1959). Therefore, someone who is located near other group members has a better chance of communicating and interacting with them (Keller, 1986), which in turn, through mutual experiences and similar attitudes, increases the likelihood of getting to know and understanding them (Brickson & Brewer 2001) and facilitates interpersonal attraction (Brown, 2000). The closer one person lives to another, the more likely they are to be friends (Festinger et al., 1950; Merton, 1948), and to share the same kind of social reality and social identity.

Festinger and his colleagues (1950) decisively shaped our understanding of the meaning of physical proximity in their research on Westgate housing project. *Functional distance*, which refers to features of position and design (e.g., the locations and directions of doors, stairways, required paths, and common rooms in dormitories) directly affects the probability of having passive contacts with another person (ibid.), and eventually determines the friendship structure and group formation in a close community (Merton, 1948). Later studies replicated these findings. Hare (1962), for example, found that people who lived close to one another were more likely to become friends and had stronger affective ties. Peterson and Martens (1972) investigated success and residential affiliation as determinants of team cohesion, and found that fraternity teams were more cohesive than teams formed on the basis of men's independent associations. Carron and Chelladurai (1982), in turn, discovered that both teamwork and physical closeness clearly differentiated successful and unsuccessful teams suggesting that there is a positive relation between physical closeness and instrumental

group functions. Basically, these results emphasize the opportunity for interaction as a prerequisite of group cohesion and effectiveness.

In the military context, *physical closeness* also provides more opportunities for interaction, and creates mutual and continuing experiences supporting social integration among soldiers. Members of military groups regularly, or at least periodically, live and work in close physical contact with one another. Holz (1986), for example, reported that living "on post" in platoon-sized open barrack rooms was beneficial in terms of group formation and platoon cohesion, whereas locating soldiers in semi-private rooms restricted their interaction and weakened cohesion. Living in the same quarters requires social adjustment and the tuning of attitudes and behavior in the interests of compatibility, provides common experiences, and leads to mutual recognition, attraction, and unit cohesion (Tziner, 1982). The design of the barracks affects the frequency of interaction and unit cohesion in that the physical surroundings (e.g., functional distance) foster the creation of unit boundaries that ease social comparison (Brewer, 2001; Henderson, 1985; Johns et al., 1984). In sum, physical closeness creates opportunities for informal association, a better understanding of the other members, and shared attitudes and experiences that foster interpersonal attraction and friendship in the group.

The creation of actual or psychological *boundaries between groups* promotes group cohesion (Levine & Moreland, 1990) and intensifies social identification among members (Horwitz & Rabbie, 1982). However, it is important to determine the level at which group cohesion supports the unit's functions most (on the team, squad, platoon, or unit level). As Holz (1986) found, semi-private rooms create boundaries within the platoon, which foster friendship among certain team mates, but weaken overall platoon cohesion. Therefore, dispersing members of a unit in different places or even different buildings neutralizes the possible effects of physical and functional closeness (Siebold, 1987). Conversely, facilities that are too large break down unit boundaries, reduce group distinctiveness (Brewer, 2001), and may weaken member identification with the unit (Johns et al., 1984).

Social isolation may strengthen the leader's effect on members' behavior (Bartone, 2000; Dornbush, 1955). For example in the military context, training experiences are reinforced in prolonged interaction (Hogg, 1992) involving adequate stress and necessitating atypical personal effort and cooperation (Kirkland, 1987). It is therefore sometimes better to keep families far away from the reality of the group. For example, people living off-post challenge effective group formation (Butler et al., 1987), and the development of appropriate relationship patterns because they are not as involved in informal interaction in barracks and have fewer contacts with their peers and leaders (Griffith, 1986b; Siebold, 1987). Similarly, civilian relationships may hamper bonding with the military and participation in group activities during wartime (Shils & Janowitz, 1948).

Albeit the military unit determines the activities and behavior of its soldiers (Henderson, 1985), civilian relations with family and friends support commitment and bonding to the unit and to military service. Military-family relations affect the extent to which a service member perceives membership in the unit as worthwhile, and whether he or she receives family support from significant others. Social contacts with friends and families may be a relief from everyday intensity, balancing stress and broadening the sources of emotional support. Extended physical separation from significant others without any specific reason, in turn, may initiate worries about the family and weaken attachment to the group (Butler et al., 1987). On the other hand, problems in the family may be detrimental to soldiers' commitment to the unit (Bartone & Adler, 1999).

Families are integrated into the military system in the professional military force (Ingraham & Manning, 1981) in terms of being housed in garrisons, receiving relocation support, and being allowed to make phone calls and send emails from the field of operations. The idea is to foster family identifications with the soldier's military career in order to increase the level of commitment. By supporting families (e.g., in housing), the military organization indirectly supports unit cohesion (Bartone & Adler, 1999), strengthens family members' loyalty, trust, and commitment to the military (Gade, Tiggle, & Schumm, 2003; Phipps, 1982), and encourages soldiers in their performance and training (Furukawa et al., 1987).

Group composition and structure form the basis for the development of group cohesion (Griffith & Vaitkus, 1999) and performance (Urban, Bowers, Monday, & Morgan, 1995). The structure of the group influences the members' affective reactions through the varying degrees of goal direction and diversity, formality, control, speech constraints, (dis)organized situations, egalitarian relationships, and decision-making (Walberg, 1967). The group structure and functions moderate the form and extent of interpersonal relationships (Brawley et al., 1988). Moreover, the type and status of the unit seem to moderate the development of group cohesion (Gal et al., 1987) and resistance to disruption (Brawley et al., 1988), and affect the extent to which cohesion affects various outcomes (Cota et al., 1995). These kinds of moderators influence the differences in cohesion components and the salience of the affective and instrumental dimensions of the group functions (Yagil, 1995).

In the military context, the *service branch* is one of the broadest labels to which the soldiers become attached through unit membership. The branch relates to institutional and organizational membership, and therefore it may intensify bonding and commitment to the military institution. For example, there seem to be consistent differences in measures of cohesion, leadership, and unit climate between the U.S. Army National Guard and the Regular Army (Siebold, 1996), suggesting that the character of the larger organization influences the group dynamics of the unit. In the Navy, sailors on board ship constitute a total, interdependent, isolated community that unites them all as

a unit, whereas Army soldiers make more distinctions between their military occupational services (MOS) even at the same base (Sinaiko et al., 1984). As a result, the Navy unit may have stronger organizational cohesion than to the Army unit, although peer cohesion may be at the same level.

The tasks, functions, and activities of the group differ systematically depending on *the type of unit*. The various groups may develop different combinations of cohesion components (Brawley et al., 1988) because the unit type shapes the meaning and salience of the component on the practical level. Therefore, the different types of units vary consistently in terms of group integration and the personal well-being of the members. For example, instrumental cooperation and coordination influence peer cohesion in armor units, whereas social support is more important in infantry units (e.g., Yagil, 1995). On the other hand, the armor companies have higher levels of well-being and consensus than light-infantry companies (Bliese & Halverson, 1998).

Group *membership provides status* and gives a social identity to the individuals (McBreen, 2002). Moreover, the status and prestige of the unit promote organizational identification (Lipponen et al., 2005) group self-esteem and commitment (Ellemers, 2001; Lipponen, 2001), support cooperative behaviors (Tyler, 2001), and contribute to the development of higher levels of group cohesion (Fischer, Greitemeyer, Omay, & Frey, 2007; Spink, 1990). In the military, for example, the Ranger course and other special courses serve as 'rites of passage' that unite those who pass out together regardless of rank (Holz, 1986). The elite status of the Rangers fosters stronger horizontal and vertical cohesion, Army commitment (Britt, 1999), and unit climate than in regular Army units (Vaitkus, 1994). Overall, these findings imply that the high status of the unit produces stronger identification with the group (Ellemers, 2001), more positive social beliefs (e.g., positive prototypes) (Hogg & Hains, 2001), and stronger social attraction among its members (Hogg & Hains, 1996).

Conversely, soldiers in combat service-support units including transportation, maintenance, supply, personnel, and health services are often perceived as having lower status because they do not directly contribute to the core business of the organization (being "persons of utterly no tactical significance" – PUNTS) (Todd, 1992, p. 31). This kid of sense of meaninglessness (Manning, 1991) or tokenism (Allen, 2003) could even be reinforced by the opinions of other people in the organizational framework (Pipping, 1988). The consequence is lower psychological attachment to the organization (e.g., a lack of commitment to the tasks and low unit cohesion). Because of their tasks, service-support soldiers may interact more with outgroup than ingroup members, which may facilitate logistical support but interferes with the formation of close within-group. Therefore, team-building interventions and qualitative leadership are needed in groups that serve other units in any organization.

Unity of purpose unites group members (Cowdrey, 1995). A meaningful, challenging mission over which the members have control generates commitment to the common goal (Bartone, 2000). Therefore, the unit promotes cohesion by providing purpose, goals, and objectives (Henderson, 1985). A sense of mission gives meaning to group performance and personal effort (Furukawa et al., 1987), and supports organizational cohesion (Stewart & Weaver, 1987). Similarly, a sense of meaningful and worthwhile purpose promotes group cohesion (Henderson, 1985) and personal identification with the group, and attaches the individual to the larger unit (Griffith, 2002). People who attach a meaning to their group membership and believe that they are making an important personal contribution on behalf of the other members and the organization (Manning, 1991) are also consistent in their individual performance (Britt, 1999), and willingly sacrifice their time and effort for the mission (Kirkland, 1987). This may be why Manning (1991, p. 464) considered "the need for clear and meaningful group missions" an integral component of unit cohesion.

Leaders provide their subordinates with direction and reasons for behaving in a way that supports group performance and unit continuity (Siebold & Kelly, 1987a). It is the leaders' responsibility to *sell the mission* by explaining its purpose and meaningfulness in practical terms (Kirkland, 1987). By ensuring that members understand the value and meaning of group experiences, the leader facilitates their attachment to the unit (Bartone, 2006; Bartone et al., 2002). Moreover, strong leader-subordinate bonding engages the members in joint efforts to achieve collective goals (Ellemers, 2001).

A group goal may be the main communality that draws different people together (Knouse, 1998), and clear, defined (Tziner, 1982), attainable (Brown, 2000) goals are associated with strong cohesion. Members of a cohesive group set higher goals and are more committed to achieving them (Klein & Mulvey, 1995). Correspondingly, goal-related agreement and consensus unite members in a common purpose and encourage group cohesion (Carron & Chelladurai, 1981; Carron et al., 2004; Cartwright, 1968). Moreover, a focus on tasks and goals helps the group to manage diversity (Grice & Katz, 2005b), unites people through interaction and cooperation, and provides a sense of progress (Manning, 1991). Sometimes, the membership produces unique goals and activities that in themselves provide distinctiveness from other groups and facilitate self-categorization and social identification (Hogg, 1992).

Well-rooted, shared *organizational goals* that are congruent with the goals of the leaders and the organization (Harinen, 1996; Henderson, 1985) support primary-group cohesion (Bartone & Kirkland, 1991), and furthermore provide a sense of purpose that increases individual commitment to the organization (Gal, 1985; Griffith, 2002). On the other hand, commitment to the organization and institution ensure that cohesive groups and units support the goals of the larger entity (Ingraham & Manning,

1981). Consistency between the organization and the nested groups in terms of goals indicates strong (organizational) cohesion in the unit (Butler et al., 1987), whereas consistency in group goals and personal needs implies strong task cohesion (Burke et al., 2005; Knouse, 1998). Overall, congruence between personal and organizational goals (Gal, 1985) serves as a cohesive, uniting force (French, 1941), and results in strong affective commitment (Meyer & Allen, 1997).

Cohesion is also associated with *goal acceptance* (Widmeyer et al., 1993). The nature of the organizational goals and their correspondence with personal needs and values influence the extent to which the members accept and internalize them (Katz & Kahn, 1978). Moreover, allowing group members to participate in the goal setting and decision-making encourages acceptance (Grice & Katz, 2005a). As a consequence, goal acceptance results in low levels of absence, high levels of productivity, and active, innovative performance (Katz & Kahn, 1978).

Group cohesion varies depending on *the type of task* (Bartone & Adler, 1999). Task types and characteristics (Butler et al., 1987; Steiner, 1972) affect job satisfaction (Mathieu, 1991), organizational commitment (Mathieu & Zajac, 1990) and group performance (Winkler, 1999), and moderate the factors that influence group cohesion (Carron & Chelladurai, 1981; Siebold, 1996) and the impact of cohesion on group performance (Widmeyer et al., 1993; Zaccaro & Lowe, 1988).

Moreover, the factors that promote cohesion vary according to the extent of *task interdependence* (Carron & Chelladurai, 1981; Tziner & Vardi, 1982). Similarly, the effects of cohesion on performance vary depending on the extent of necessary intragroup cooperation and coordination (Beal, Cohen, Burke, & McLendon, 2003; Widmeyer et al., 1993). Tasks could be categorized as disjunctive, conjunctive, and additive (Steiner, 1972). A disjunctive task can be accomplished if one person (the most capable) succeeds in it, whereas success in a conjunctive task is based on the performance of the least effective person. An additive task requires effective performance from all group members because the results are based on the combination of individual outcomes achieved separately.

In conclusion, group characteristics have relatively direct influences on group cohesion. For example, the group type, size, purpose, goals, and tasks impact the processes and task work. Even one change in property (e.g., the number of people) may have instant consequences in terms of members' interaction, cooperation, and social and task support that eventually affect primary-group cohesion. It is therefore vital to take group properties into account when assessing cohesion and planning supportive interventions in units.

3.3 SOCIAL EXPERIENCES IN PRIMARY GROUPS

Social support among the members relates positively to cohesion in small units (Griffith, 1989; Yagil, 1995). It protects against stressful conditions (Griffith & Vaitkus, 1999), and the advice, guidance, and information provided by other group members help with daily task performance (Griffith, 1989; Griffith & Vaitkus, 1999). Weiner (1990) modeled social support and performance motivation, arguing that social support facilitates personal adjustment, and, therefore, job performance. Moreover, it strengthens identification with the group (i.e., group cohesion) which in turn increases performance motivation (ibid.). Without social support people are susceptible to diverse mental and social problems (Quick, Joplin, Nelson, Mangelsdorff, & Friedler, 1996), whereas the provision of emotional support promotes well-being, identification, solidarity, and readiness (Griffith, 2002). Members of a socially supportive group show concern for the welfare and well-being of others, accept individual differences, and mediate hard feelings and malice among people (Mikalachki, 1969).

Group members in the military share everything (problems, news, and even personal property) in order to secure reciprocated social and task support that enables them to survive in a challenging situation (Kviz, 1978; Little, 1964). By taking turns (with inconveniencies such as being on night watch) the soldiers demonstrate their loyalty to the group and its members. Social support and prosocial behavior are treasured in a well-organized, cohesive group, and more capable members are encouraged to take care of others. For example, those with the appropriate skills are encouraged to take an interest in their fellows and subordinates in terms of listening to others' problems, encouraging sustained effort (e.g., Harinen, 1996), helping slower learners and performers, protecting the group and its weaker members, and taking more responsibility with a view to saving others' time and energy (Bartone & Kirkland, 1991; Kirkland, 1987). Similarly, *task support* is likely to strengthen unit cohesion by increasing identification, solidarity (Griffith, 2002) and task/performance motivation (Weiner, 1990), and decreasing the likelihood of disintegration (Griffith, 2002).

In conclusion, both social and task support have several positive outcomes. Social support in particular is a vital precondition of personal well-being and social cohesion at the group level. A supportive, cohesive unit constitutes a net that protects individuals in any type of situation. If the person or the group fails, socio-emotional relationships protect against harmful consequences and encourage the group members to try again. Confidence in the help, support, care, and appreciation of others is a key ingredient of good social and task cohesion in the primary group.

Communication serves two purposes: frequent and positive interaction among group members creates feelings of belonging and strengthens the affective function, and on the other hand enables the exchange of information, coordination, and adjustment in changing conditions that affect

the group's instrumental tasks (Grice & Katz, 2005a). The cohesive group creates its own, unique form and network of communication (Dornbush, 1955; Festinger et al., 1950; Hult, 2002) for sharing information and attitudes (Kirkland, 1987; Mesmer-Magnus & DeChurch, 2009). Through implicit communication the members can interact by using their shared knowledge, understanding, phrases, and jargon (Cowdrey, 1995). Sometimes the new member cannot understand what is happening between other members, having not broken the 'Enigma code'. Ultimately, the members do not even need words in order to express their thoughts (e.g., just a glance will do) (Hult, 2002). Consequently, they communicate less but understand everything that is required for effective task performance under a stress or in a hurry.

Communication relates to the development of *social cohesion* among group members, and is "the mechanism through which human relations exist and develop" (Cooley, 1909/1962, p. 61). A high frequency of contact and interaction results in personal attraction (Festinger et al., 1950; Lott & Lott, 1965) and stronger identification with the group (Lipponen, 2001). Frequent communication with familiar people is rewarding (Secord & Backman, 1964) and reinforces friendship ties (Festinger et al., 1950). Friendship and communication patterns produce cohesion in groups (Wesbrook, 1980), and vice versa, the more cohesive the group, the more intense and effective is the interpersonal communication among its members (Back, 1951; Festinger et al., 1950; Shaw, 1981; Tziner, 1982). In the end, communication and social cohesion are in a reciprocal relationship.

Communication also improves *task cohesion* in the group, enabling the members to give and receive more feedback, produce shared mental models, form clear goals, and make shared decisions (Grice & Katz, 2005a). The consequences of continuous communication in a cohesive group include the sharing of information, attitudes, and values related to immediate, relevant social situations and behavior (Festinger et al., 1950). Members of cohesive groups gather, manage, and disperse information more efficiently (Grice & Katz, 2005a). Moreover, communication serves as a mechanism (Schachter, 1951) for exerting informational influence by providing credible 'reasons to agree' (Henderson, 1985; Hogg, 1992), which is why it plays a crucial role in social actions influencing attitudes and exerting pressure on deviates (Festinger et al., 1950). Via communication attitudes become more uniform and the pressure to conform increases (Milgram, 1971).

Increased *interaction* gives rise to interpersonal liking (Homans, 1961; Shaw, 1976; Seashore, 1954; Zaccaro, 1981), favorable attitudes towards others (Griffith, 1986b; Schein, 1965), better knowledge about them (Griffith, 1986b), and predictable behavior and attitudes (Secord & Backman, 1964). Frequent, intense interaction almost automatically fosters primary-group cohesion (Henderson, 1985; Wesbrook, 1980), and in fact, the opportunity for interaction is a necessary precondition of cohesion (Bartone & Adler,

1999; Ingraham & Manning, 1981; Lott & Lott, 1965; Mikalachki, 1969; Secord & Backman, 1964).

Close relationships and face-to-face interaction generate shared beliefs and experiences (Burke et al., 2005) that, in turn, develop affective, social bonds between the members (i.e., personal attraction) and identification with the group (i.e., social attraction) (Hogg, 1992). Yoon and Lawler (2005) explain the logic of how interaction among members increases their bonding with the group: dependency generates interaction, which increases positive emotions and feelings, the predictability of other members, and the salience of the situation. Finally, perceived cohesion generates stronger commitment to the group (ibid.). Indeed, interaction also facilitates organizational commitment (Mowday et al., 1982). Heffner and Rentsch (2001) demonstrate how social interaction at work and in the department is significantly related to affective commitment to the work group and the department. Moreover, social interaction and affective commitment are related on all levels of the hierarchy, and interaction is thus a tool for improving affective commitment among the personnel (ibid.).

Communication patterns and interaction affect group performance (Stout, Salas & Carson, 1994). Therefore, a cohesive group assimilates its members in order to avoid interaction breaks and sustain normal frequency (Likert, 1961; Mikalachki, 1969). It is argued that socially interactive members are more productive and exhibit organizational-citizenship behavior more than other people (Heffner & Rentsch, 2001), indicating a link between interaction and favored behavior and performance. The emphasis on *task cohesion* puts the focus on uniform behavioral patterns for completing tasks and achieving goals, and places less value on informal relations and communication (Tziner, 1982). Conversely, too much emphasis on *social cohesion* may temporarily decrease the effectiveness of the group. Thus, the nature of the situation determines the type of communication and cohesion that is valuable in the specific context, and the effect of cohesion on outcomes (Kirke, 2009).

A *socially cohesive group* engages communicative interaction, which is characterized by higher levels of authenticity, more positive socio-emotional messages, increased informal interaction, and more equality in communication compared to interaction in a less cohesive group (Tziner, 1982). On the other hand, an *instrumentally cohesive group* typically engages in a relatively small amount of social communication (in order to reduce counter-productivity), which may have negative socio-emotional connotations (for directing productivity norms and getting non-productive members to follow the rules), but in a lot of formal, informative communication that improves group functioning and coordination, and has a high threshold for emotional expressions (ibid.).

Communication and interaction refer to social relations among group members, whereas *coordination and cooperation* relate to task-related relationships. Coordination is required when people conduct “the same or

complementary task at the same time" (Guastello & Guastello, 1998, p. 423). It develops through (a) standardization (of rules and regulations that direct activities), (b) planning (of goals and action guidelines), and (c) adjustment to living, working, and performing together (Carron, 1982). It is further promoted through the maintenance of a reasonable workload and communication patterns, effective management, and regular teamwork training (Leedom & Simon, 1995). Research findings suggest that cohesion improves coordination (Guastello & Guastello, 1998) and thereby facilitates performance (Mullen & Copper, 1994).

The basis for improving *cooperation* is the creation of a task focus on group goals requiring united effort and teamwork among members (Grice & Katz, 2005b). If the members are required to work according to their roles in the group, the role interdependence further integrates them as a unit (Mikalachki, 1969). Task cohesion in particular is improved through integrated group behavior, the opportunity to interact and vary positions and tasks (ibid.), and cooperation in the achievement of mutual goals (e.g., Hogg, 1992). Basically, task and goal interdependence increases cohesion (Chen, Tang, & Wang, 2009; Manning, 1991), and paves the way for group integration (Stogdill, 1972). Overall, joint activities, cooperation (Brown, 2000), and a lack of subgroups entail high cohesiveness, whereas a lack of cooperation indicates low cohesiveness (Mikalachki, 1969).

In sum, the opportunity for interaction and cooperation among members, and integrated group behavior support unit cohesion. Interaction serves the social and emotional needs of the members (e.g., social support and feelings of liking) and facilitates the sharing of the group identity. It fosters social cohesion, whereas cooperation and coordination promote task cohesion and effective performance in the group. All in all, primary-group cohesion benefits from supportive informal interaction among the members and formal cooperation in the tasks.

Teamwork vs. Taskwork. A team or squad establishes the smallest, nuclear structure within which cohesion can exist. Any organization benefits from well-organized, effective units in which the members pull together, support one another, and carry out the tasks and missions consistently (Knouse, 1998). The better the team members and their activities match the better are the expected outcomes. Moreover, teamwork and taskwork are closely related to unit cohesion. Indeed, the quality of teamwork distinguishes successful and unsuccessful teams and groups (McBreen, 2002), and successful groups are consistently more cohesive than unsuccessful groups (e.g., Peterson & Martens, 1972). Overall, the quality of critical team behavior predicts primary-group cohesion and moderates the effects of cohesion.

Morgan (et al., 1986) assessed teamwork based on a *Critical Team Behavior Form* with which they were able to identify and categorize team members' effective and ineffective behavioral patterns. Basically, critical team behaviors comprise teamwork and taskwork. Teamwork focuses on

interaction, communication, cooperation, coordination, affection and relationships, whereas taskwork necessitates effective problem solving, clear task requirements, and performance and interaction patterns (Glickman et al., 1987). Teamwork entails behaviors that make the team cooperative and functioning, whereas taskwork behaviors focus on effective individual performance in subtasks (Baker & Salas, 1996; Bowers, Baker, & Salas, 1994).

Other studies categorize critical *teamwork competences* in terms of communication, situational awareness, leadership, decision-making, mission analysis, adaptability, and assertiveness (Prince & Salas, 1993). On the other hand, Dwyer, Oser, Salas, and Fowlkes (1999) suggest alternative dimensions: (a) communication, (b) team coordination (through shared information, synchronized actions, and skills and know-how with regard to other people's jobs), (c) situational awareness, and (d) adaptability to situational changes. Cannon-Bowers, Salas, Tannenbaum, and Mathieu (1995), in turn, discovered 130 teamwork-enhancing skills that formed eight critical team behaviors:

1. Adaptability.
2. Shared situational awareness.
3. Interpersonal relations.
4. Communication.
5. Coordination.
6. Leadership.
7. Decision-making.
8. Performance monitoring.

In terms of *taskwork* and performance, the quality of team behaviors can be evaluated on five dimensions: (1) task criticality and error criticality in the case of inappropriate behavior, (2) performance difficulty, (3) time spent in performance (the number of times the task must be performed within a certain time span), (4) the difficulty of learning the correct behavior, and (5) the importance of training in that context (Baker & Salas, 1996; cf. Bowers et al., 1994). The assumption is that differences in teamwork and taskwork behaviors influence unit cohesion. Moreover, each group and its cohesion may vary depending on the composition of the team (e.g., the number of people and the individual skills, knowledge, and attitudes available). Consequently, groups may differ in terms of tasks, and particularly the required task interdependence (Hornsey et al., 2007; Salas, Bowers, & Cannon-Bowers, 1995).

Interdependence in Teamwork and Taskwork. Performance that requires intense coordination between group members is apt to intensify social interaction, cooperation, and also perceptions of cohesion in the group (Butler et al., 1987). Military tasks by their nature require intense teamwork and *interdependence* among the group members (Bartone, 2000), and high levels of effort coordination. Higher levels of task interdependence necessitate more intense teamwork and taskwork, and calls for shared mental models and specific skills in order to enable the members to

complement each other's performance if necessary. Integrated, intensive exercises adapt the soldiers to performing together and to trusting and relying on the support of team mates and neighboring groups (Zazanis, Zaccaro, & Kilcullen, 2001). However, the particular challenge in terms of supporting cohesion is that large organizations consist of a wide variety of teams and groups with fluctuating missions, developmental phases and/or compositions. This imposes diverse requirements on leadership and training (Johns et al., 1984).

Cohesion could be moderated by the *equipment* that people use in working together (Saaristo, 2002). Janowitz and Little (1974) found that military groups differed based on their weaponry, and specifically as a function of the type of firing (as a team or individually), the situation (launched from a distance or a direct, physical attack against a visible enemy), the amount of required communication and the difficulty of communicating between crew members, and the extent to which the use of the weapon system necessitated mutual support among the group members. They concluded that crew-served weapon teams are more cohesive than groups that have individual-fired weapons (Sinaiko et al., 1984).

The best primary-group cohesion is assumed to develop in groups in which the activities and functions force the members into close, structured, continuous interaction (Henderson, 1985; Janowitz & Little, 1974). In the military, such groups include tank, heavy-weapon, aircraft, and submarine crews whose members perform as an integrated part of a machine (McBreen, 2002; Wesbrook, 1980). Working and performing together in close face-to-face interaction in pursuit a common objective unites people affectively and instrumentally (e.g., Cartwright, 1968; Chodoff, 1983; Griffith, 1988; Lott & Lott, 1965). Therefore, task interaction, the extent and intensity of the group activities, and required interdependence in work and training (Knouse, 1998) moderate the effects of group experiences on unit cohesion.

Group cohesion is strengthened through increasing similarity among members (Cartwright, 1968; Mikalachki, 1969). Moreover, exchanging information in interaction increases the degree to which the members' activities and sentiments are similar (Homans, 1961; Secord & Backman, 1964). *Shared attitudes and experiences* intensify the positive valence of the primary group, resulting in stronger cohesion (Carron et al., 2004). Shared social beliefs and attitudes also affect social identification, which in turn influences cohesion in terms of strengthening social attraction among members (Hogg & Hains, 1996).

Shared perceptions among group result in a united group (Schneider, Salvaggio, & Subirats, 2002). Basically, people who share the same values, interests, and attitudes are more likely to like one another as friends (i.e., personal attraction) (Anderson, 1975; Lott & Lott, 1965; Newcomb, 1943; Secord & Backman, 1964). For example, people with common social attributes and experiences easily develop interpersonal relations (George, 1971; Janowitz & Little, 1974) and form cohesive groups (Henderson, 1985;

Manning, 1991), possibly because they believe that they also have similar attitudes (Lott & Lott, 1965; Terborg, Castore, & DeNinno, 1976).

Interaction with people who have *similar values and attitudes* is rewarding (Lott & Lott, 1965), thus people like to spend time and interact with similar others. The feeling that the other members have appropriate and valid opinions and common background experiences generates a perceived sense of similarity in the group (Holtz, 2004). Overall, the similarity of ideas and sentiments appropriate to the primary activities of the group creates solidarity among the members (Cooley, 1909/1962) and motivates them to further "seek a common social framework" (Tziner, 1982, pp. 227-228).

Shared mental models denote "the extent to which the cognitive representations held by individual team members concerning the demands of the team task are similar" (Urban et al., 1995, p. 136). As a result, the members are aware of the norms, tasks, roles, and functions governing the life and performance of the group (Salas et al., 1995). They are able to anticipate the needs, expectations, behavior and responses of others even without communication (Grice & Katz, 2005b), and this stimulates implicit coordination and effective performance (Salas et al., 1995).

There are three types of knowledge that is required in order to assimilate group members into a productive, well-organized, intact team: knowledge about the members, about the tasks, and about the group as a whole (Levine, Bogart, & Zdaniuk, 1996). Sharing mental models facilitates the acquisition of more accurate and more detailed inter-positional knowledge about the other members' roles and tasks (Urban et al., 1995). Thus the group functions as a whole and the members identify with the team and its goals (Kozlowski, Gully, Salas, & Cannon-Bowers, 1996). Consequently, shared mental models promote the fulfillment of group tasks: the members are able to work and communicate more efficiently together, they have a common understanding about procedures and goals, and they can react to new situations more quickly and more appropriately as a group (Knouse, 1998).

Frequent interaction unites members in their perceptions of their shared experiences, thereby establishing the *social reality* of the group (Baratta & McManus, 1992). Social reality further regulates interaction between members, and at the same time construct self-conceptions that influence their values, beliefs, attitudes, and behavior in a specific society (Hardin & Higgins, 1996). Individual members unconsciously censor and control their own attitudes (Allport, 1924) in order to match them to the social reality and to preserve the unity of the group (Janis, 1972). The more people interact, the more they believe that they have common experiences and the more similar their conceptions of reality become.

A shared sense of social reality is established in group processes in which people (Bliese & Halverson, 1998) agree on the meaning of shared experiences, group functions, and goals (Hardin & Higgins, 1996). Social verification sets in motion either maintenance or change in beliefs and attitudes about the meaning of ongoing social activities and memories of past

activities. Consequently, the process influences personal perceptions and judgments, and notions of appropriate communicative styles (ibid.).

Shared experiences are necessary for developing unit cohesion (Bartone & Adler, 1999), which in turn influences the structuring of social reality or social beliefs about acceptable thoughts and behavior (Hogg, 1992). Cohesion develops in face-to-face interaction among people who share meaningful experiences (Ingraham & Manning, 1981). Therefore, social experiences and contacts may be more influential per se in terms of improving cohesion than the content of what people are performing or experiencing.

Furthermore, *shared experiences* hold members of the group together (Manning, 1991), initiating norms, habits, and standards as well as trust in and commitment to other members (Ingraham & Manning, 1981). In the military, for example, shared experiences that unite members are developed by going through challenging training and exercises, spending off-duty time together, and being in combat as a team (Boer, 2001). Moreover, frequent interaction, cross-training, and debriefings are practices that produce shared mental models about the tasks (Grice & Katz, 2005a), increase knowledge about one's own and other people's contributions to performance, build up trust and appreciation among group members, and strengthen unit cohesion (Todd, 1992). Therefore, unit leaders could facilitate cohesion by creating shared events and situations and turning them into shared experiences through post-action reviews and 'chalk talks' in which members build up a shared meaning for their experiences and the specific group performance (ibid.).

A Shared Social Identity. People have an innate need to compare and evaluate their opinions, abilities, and behavior. Social comparison theory (Festinger, 1954) posits that a person creates an understanding about him- or herself based on social comparison in the reference group. Typically, people compare themselves with others whose qualities and attributes are on the same qualitative level (i.e., lateral comparison) (Taylor, Wayment, & Carrillo, 1996). They thereby define themselves as members of specific social categories and create a congruent social identity (Hogg, 1992; Hogg & Abrams, 1988). Lateral social comparison with valued group members strengthens feelings about the worth of the group membership and facilitates social identification that positively relates to group cohesion (Griffith, 2002). Through self-evaluation and social comparison people can:

- Minimize personal weaknesses, support self-esteem, self-efficacy, and beliefs about superiority (in downward comparisons);
- Understand socially correct behavioral patterns, reactions, and responses, and learn new things (in lateral self-regulation);
- Share experiences, and create a social identity among group members (in lateral affiliation);
- Learn by example and create personal goals (in upward comparisons) (Taylor et al., 1996).

On account of their social identity, individuals also compare people with one another based on their group affiliation (e.g., ingroup vs. outgroup members). The purpose of group comparison is to maximize the contrasts between the ingroup and outgroups and reinforce one's own group membership (Brewer & Harasty, 1996; Dion, 1973). Group members similarly classify themselves as a unique collection of people with a distinctive social identity compared to the outgroups. This process could be called *self-categorization* in which similarities between oneself and fellow members are evaluated on the basis of the group prototype and outgroup prototypes (Hogg, 1992). These ingroup–outgroup comparisons involve the categorization of prototypes and the activation of a collective identity, whereas possible interaction with individuals from outgroups may be relational in orientation, and does not necessarily involve group membership and categorization (Brickson & Brewer, 2001). Uniformity in behavior and attitudes is more likely when the outcomes of group membership are assessed as positive, and as more favorable than any alternative group relations would produce (Horwitz & Rabbie, 1982; Secord & Backman, 1964). The stronger the feeling of belonging to the same social category, the more important such a psychological or social group is as a reference group for its members (Turner, 1984). Similarly, the more cohesive the group is the more likely it is to be considered a reference group (Schachter, 1951).

Social identification connects the person with a certain prototype that presents the group as a discrete, well-defined, meaningful social unit, and differentiates it from other groups and units (Hogg, 1992). The social field (e.g., group membership) fashions a social identity, and inducts appropriate norms that further direct people towards prototypical behavior due to its salience. The more strongly the members identify with the group and share a common understanding of the prototypical features (e.g., thinking patterns, responses, and behavior), the more similar are their attitudes and the more normative their behavior patterns (Brewer & Harasty, 1996; Griffith, 2000).

The positive effects of social identity on cohesion rely on the process through which it directs and limits individual behavior (Brewer & Harasty, 1996) and creates a sense of commonality and consensus in the group. Basically, socio-psychological group processes such as depersonalization, ingroup formation, the development of consensus, and enhanced identification positively influence cohesion (Hogg, 1992; Hogg & Abrams, 1993; Hogg & Hains, 1996). It could therefore be concluded that shared social identification indicates strong primary-group cohesion among the members (Griffith & Vaitkus, 1999).

Group members genuinely seek *consensus* (Newcomb, 1953) and *conformity* to standards and norms (Hogg, 1992; Rovio, 2002). Consensus refers to the amount of agreement and similar understanding of the social context (Griffith, 2004), and it seems to be a criterion for unity in the group (Burke et al., 2005; Carron et al., 2004). It can be achieved by incorporating the group's value system into the members' own values via indoctrination (cf.

Heffner & Rentsch, 2001; Ward, 1999). Through interaction, a cohesive group teaches and communicates the basic beliefs, norms, and standards in order to unify the attitudes and behavior of newcomers, and then controls their membership by obliging them to conform to the group's socially-constructed attitudinal and behavioral patterns (Bandura, 1986; Holtz, 2004; Sherif, 1968).

Consensus is a product of increased social integration among group members. Cota and his colleagues (1995) even suggest that in terms of values and behavioral rules it may be a primary component or dimension of cohesion. Nevertheless, consensus (about the unit's goals) is strongly associated with the commitment of the members (Gal, 1985). Conversely, stronger attachment to group membership relates significantly to elevated feelings of pride, duty, and commitment (Bass & Avolio, 2000), and to consensus about peer relations and leadership (Bliese & Halverson, 1998).

Activities that are relevant are also more likely to be essential for sustaining the group formation, and are therefore under the influence and control of the group. There is more pressure to reach consensus and stronger rejection of deviates on relevant issues (Festinger, 1954; Festinger et al., 1971; Schachter, 1951), whereas on irrelevant issues the members are free to hold onto their own ideas and perceptions (Secord & Backman, 1964). A lack of consensus about the relevant issues may produce a stressful social environment, which explains why groups with higher levels of consensus also have better psychological well-being, on average (Bliese & Halverson, 1998).

Consensus under social pressure leads to *conformity* (Festinger, 1950; Henderson, 1985; Sawrey & Telford, 1971), which refers to "the process by which people begin to take on the perspectives of the groups to which they aspire" (Van Maanen, 1983, p. 5). In fact, the relation between consensus and conformity is more likely to be reciprocal in that conformation with attitudes and values leads to a higher level of consensus, which in turn requires stronger conformity. Brown (2000) identifies the three components that guide people toward conformity as orientation, evaluation, and control. Orientation refers to a process whereby the group members who expect to face a particular problem seek relevant information and discuss possible solutions. Evaluation entails weighing up the different ideas to find the best alternatives that meet the group standards. Having found the right solution the members start to control one another in order to ensure appropriate implementation and behavior (ibid.). Control enables effective follow-up to secure consensus and to regulate social experience and actions to correspond with group norms (Fleming, Baum, & Singer, 1984; Janowitz, 1975).

In a sense, unit cohesion thrives on social control and structured patterns of relationships between members (Siebold, 1987). Social control is an inherent group mechanism with which to create harmony (Homans, 1961; Janowitz, 1975). The pressure to conform comes from (a) the personal values and perceptions that are instilled in cultural socialization, (b) the organization and the institution and their rules, regulations, taboos, customs,

and traditions, and (c) the reference group and its social reality (Festinger et al., 1950). Katz and Kahn (1978) categorize three types of control pressure that deepen the *uniformity* of the group: (1) environmental and task requirements that affect individual performance and the structuring of the work, (2) demands for certain behavior based on shared values, beliefs, expectations, and goals, and (3) the enforcement of rules through extrinsic rewards, sanctions, and penalties. Johns (et al., 1984) and Wesbrook (1980) classify the methods of group influence as: (1) coercive power, (2) remunerative power (the use of material incentives), and (3) normative power (the use of symbolic rewards and deprivation, psychological sanctions based on internalized values and norms, and social sanctions in terms of social pressure). Alternative forms of normative influence include coercive power (e.g., threatening and punishing the person), reward power (e.g., motivating the person by means of approval or positive incentives), and referent power (based on its importance as a reference group) (Hogg, 1992). Of these categorizations, referent/normative power in particular relates to the social integration of an individual in that it exploits the personal need for affection, recognition, and security (Henderson, 1985). Control of group members by means of physical and economic/material sanctions is external (Johns et al., 1984), whereas in a cohesive group control vial well-integrated referent/normative power is almost automatic in that members have internalized the normative system to be under their self-control, and thus they internally evaluate and control their behavior. In the end, social and psychological means of control are more powerful organizational tools (Griffith, 2009).

Secord and Backman (1964) insightfully suggest that support for one's own ideas and values is perhaps the best reward an individual can receive from interaction with friends. Mutual agreement unites group members, establishes a common understanding or opinion, and defines a unique social reality that is a standard for further evaluation (as detailed above) (e.g., Schachter, 1951). Finding some else with the same attitudes confirms one's own opinions (Festinger, 1954), which in a group situation is a unifying factor (Brown, 2000).

As specific outcomes of cohesion, consensus and conformity lead to *groupthink* (Janis, 1972; McCauley, 1989), which refers to a condition in which the maintainance of unity (Hodson & Sorrentino, 1997) and a shared positive view of the group (Rovio, 2002; Turner, Pratkanis, Probasco, & Leve, 1992) is more important than reasonable evaluation of the situation and rational decision-making. Janis (1972, p. 9) defines groupthink as "a deterioration of mental efficiency, reality testing, and moral judgment that results from ingroup pressures." Group members thus reject the good ideas and suggestions for innovations and improvements of outgroups because they did not originate from within. The group then loses its ability to realistically evaluate the full range of options for possible action, and focuses only on matters that match its social reality (Hodson & Sorrentino, 1997;

Janis, 1972). The consequences of maintaining consensus without using common sense include poor judgment of the situation, mediocre decision-making, and a deceptive sense of omnipotent leadership (e.g., Bliese & Halverson, 1998; Janis, 1972). Attitudes shared by other group members are the most difficult to change (Lott & Lott, 1965). However, a break-away group of people may resist the integrating influence of the base group (a) when it is divided into the cliques with deviant perceptions of the overall group and the other members, (b) when their pertinent social identity is formed by an outside group, and (c) when the opinions and the attitudes of the outside group are perceived to be more relevant (e.g., Festinger, 1950).

The degree to which members of a group live by its norms relates to its cohesion (Johns et al., 1984). *Norms* are standards or behavioral expectations shared by the members (Argote, 1989; Levine & Moreland, 1990) that define valid, appropriate perceptions (Secord & Backman, 1964), and imply a range of acceptable and unacceptable attitudes and behavior (Brown, 2000; Festinger, 1954; James & McIntyre, 1996; Sherif, 1971; Sherif & Sherif, 1956). Optimally, norms represent the members' needs and values (Zaccaro, 1981) and become an integral part of personal autonomous behavior (Gal, 1985). A cohesive, tight-knit group as an intensive social system establishes and enforces norms (Hackman, 1976; Horne, 2001). There is evidence that group norms are preeminent in terms of establishing and maintaining structure (Levine & Moreland, 1990), resisting disintegration (Wesbrook, 1980), and supporting the organizational routines (Little, 1964) that set the standards, maintain the social structure, govern and regulate behavior, and bring order and predictability to the group (Brown, 2000; Mathieu, 1991; Secord & Backman, 1964). These are the basic reasons why a cohesive group exerts constraints on and prescribes the attitudes and behavior of its members (Siebold, 1987).

Norms define the limits for opinions and behavior in the unit (Little, 1964; Secord & Backman, 1964), and every group has minimum standards governing its members' participation in and contribution to performance (Harinen, 1996, 2000; Høigaard, Säfvenbom, & Tønnessen, 2006; Little, 1964; Prapavessis & Carron, 1997b). The importance of the informal group in setting and enforcing group standards and behavior was discovered during World War II (Stouffer et al., 1949). Pipping (1947; 2008) refers the economic principle of behavior (see also Harinen, 1996), meaning the endeavor among soldiers to find a comfortable balance between duty demands and satisfaction with their social life among their mates. Hockey (1986) labeled this principle 'minimal cooperation' with officials. The norm of minimal cooperation is threatened through volunteering, working too hard, or showing too much courage (Pipping, 1947, 2008), for example, the implication being that this kind of behavior is viewed negatively and is controlled by other group members. Little (1964) put forward the same idea about the norm of economically moderate contribution with reference to the Korean War. He identified two separate roles in the platoon, duds and

heroes, and explained that the duds did too little and the heroes too much compared to the behavioral standards in the platoon. Both types of soldiers were rejected in friendship relations and they occupied the role of deviant for the same reason: their actions endangered the security and balance of the whole community (ibid.; see also Pipping, 1988, 2008). Military norms could be summarized in the general principle to always "look after your mates" (Hockey, 1986, p. 123), which is close to the ideal of "never leave anyone behind" (Gal, 1986a, p. 104). Hockey (1986) discusses typical group norms in the military, arguing that a soldier is compelled to (a) reciprocate social obligations and provide social support, (b) do his or her share, (c) never get others into trouble, (d) do everything in moderation according to group standards, and (e) be loyal to his or her peers.

Cohesion results in *a uniform set of standards and directions* (Festinger et al., 1950), which may be formal, such as rules and regulations, or informal drawing upon a shared understanding and agreement about proper conduct (Johns et al., 1984). Informal norms are sometimes even more significant than organizational norms and rules in terms of controlling and directing human behavior in a cohesive group (Moreland, Levine, & McMinn, 2001). Norms are closely related to primary goals, functions, and social identity, and therefore effectively regulate clothing, manners, dialects, cooperation, and performance, for example (Brown, 2000). They ease self-categorization processes and comparisons between a person's own group and outgroups and facilitate the defining of a distinct group identity. On the other hand, a group that embraces a wide set of values, opinions, and legitimate behavior is more difficult to distinguish from other groups, and is thus less satisfying for all of its members (Ingraham & Manning, 1981).

The unit benefits if there are *consistent norms on all hierarchical levels*, which in turn facilitate organizational cohesion and effectiveness (e.g., Johns et al., 1984). Norms mitigate leadership in that they weaken the personal influence of the leader (Secord & Backman, 1964). The unit is able to control its members through the internalization of group values and norms (Henderson, 1985), even when there are no leaders present. Regardless of the formal rules and regulations, each group develops its own standards of conduct and forms of enforcements (Johns et al., 1984). This normative structure may deviate from the organizational regulations, particularly in situations in which the group is not under the influence of any organizational or institutional framework. Little (1964), for example, found that the longer a platoon was on the front line in the Korean War, the more its norms deviated from the organizational norms at the base. The implication is that in a situation in which the nested groups have incongruent norms, the norms of the most salient unit rule.

The social reality in a group produces specific *production norms* and social pressure that direct the group behavior and processes in order to improve organizational effectiveness (e.g., Hogg, 1992; Secord & Backman, 1964). Norms create routines that bring more efficiency to performance, help

people to save energy in social relationships, and allow them to focus on solving problems in group processes (Siebold, 1987). Unit cohesion increases the salience of the group (Fine & Holyfield, 1996) and encourages adherence to the prevailing norms, which in turn contribute to the level of performance (Brown, 2000). Members in a highly cohesive group agree more easily about the production rate, for example (although the agreed rate does not necessarily profit the organization) (e.g., Hare, 1962).

A lack of bonding among members and commitment to the larger institution may result in a situation in which the primary-group norms are in conflict with the organizational and institutional rules and norms (Chodoff, 1983). In such cases, social control and pressure should be exerted to ensure the adoption of the secondary group's values and expectations and their incorporation into the other norms at the primary-group level (Henderson, 1985). When group norms and cohesion comply with the organizational norms and standards, group performance is likely to be highly effective. Therefore, a cohesive group requires integration into the larger entity in order to guarantee that the group processes support organizational goals and prospects (Gal, 1985; McClure & Broughton, 1998).

A cohesive group with a common perspective may easily turn against the organization if the training, leadership, or management is inadequate (Furukawa et al., 1987), and create *norms and goals that compromise the organizational effectiveness* (Henderson, 1985; Sterling & Williams, 1982; Wesbrook, 1980). Individual in such a group may even believe that avoidance of work is right and proper (Wesbrook, 1980) because the other members comply with the low behavioral standards. Thus, organizational effectiveness suffers when a highly cohesive group has conflicting values, norms, and goals (Ben-Shalom, Lehrer, & Ben-Ari, 2005; Chodoff, 1983; McClure & Broughton, 1998). The main implication here is that the level of consistency or congruence in the goals of the primary and secondary groups moderates the link between primary-group cohesion and organizational effectiveness (Oliver, 1990). Therefore, the instillation of norms and goals at all levels of the organization could neutralize the potentially negative effects of unit cohesion (McClure & Broughton, 1998; Rovio, Eskola, Kozub, Duda, & Lintunen, 2009).

Social cohesion does not affect the direction of the members' involvement, but it does strengthen the intensity of their feelings, attitudes, and behavior (Etzioni, 1975). According to Etzioni (ibid.), peer cohesion may support a whole variety of norms from instrumental cooperation to sabotaging the organization. In fact, a group focusing on the socio-emotional satisfaction of its members primarily serves their personal needs (related to belonging, acceptance, support, friendship, and emotions) (Baumeister & Leary, 1995). Social cohesion thus mitigates norms that motivate members to show fairness, social support, helpfulness, and loyalty to friends, and prohibits competition and aggression (e.g., Secord & Backman, 1964). In sum, *peer cohesion* may facilitate but does not guarantee effective,

measurable group performance (Carron & Chelladurai, 1981; Little, 1964; Mikalachki, 1969; Stogdill, 1972; Zaccaro & McCoy, 1988).

However, cohesion may enhance the effectiveness of a group if the norms promote effectiveness. Essentially, *task cohesion* facilitates achievement (Hackman, 1976; Salminen & Luhtanen, 1998; Zaccaro & McCoy, 1988) by intensifying involvement in task behavior. Specifically, it increases productivity through reinforcing task-related norms that encourage attendance, hard work, effective interaction, cooperation and coordination, continuous learning and training, and an achievement orientation (Brown, 2000; Siebold, 1987; Zaccaro, 1981). It thus sustains the task focus and reduces the risk of groupthink (Bernthal & Insko, 1993; Rovio et al., 2009). A task-focused group endorses achievement and serves personal needs for status, eminence, position, and appreciation and admiration by others. Furthermore, performance-related norms, roles, and strategies are more easily accepted in a task-cohesive group (Zaccaro, 1991).

Task cohesion may be more effective in creating norms than social cohesion in task-related activities such as sports. Moreover, in a team it promotes task motivation in performance (Carron & Chelladurai, 1981). Sport teams are, in general, relatively homogeneous in their achievement orientation given their inherent task orientation (ibid.). Therefore, the development of task cohesion may be more relevant to the sport team than social cohesion (Jowett & Chaundy, 2004; Salminen & Luhtanen, 1998). Prapavessis and Carron (1997b), for example, reported that task integration was more effective in mediating between personal sacrifice and conformity to norms than social integration among team members.

In assessing the relative importance of these two group functions, effort devoted to social integration could be subtracted from effort assigned to task performance (Weiner, 1990). On the other hand, high task cohesion may encourage group members to overemphasize performance at the expense of the social aspects (Hardy, Eys, & Carron, 2005). Moreover, particular combinations of social and task cohesion may produce norms that restrict the extent and quality of the work (Oliver, 1990) in order to protect the group from extra demands from those in authority (so-called 'protective task group') (Mikalachki, 1969). All in all, research results support a balance between maintenance of the group structure (and members satisfaction) and the striving for performance effectiveness (Hardy et al., 2005).

Norms are for social control, and cohesion amplifies the normative influence of the group over its members (Hardin & Higgins, 1996; Shamir et al., 1998). The effects of norms are moderated by individual levels of commitment (Wesbrook, 1980) and the cohesiveness of the group (Secord & Backman, 1964). Social pressure and sanctions are accepted as legitimate in a cohesive group (Horne, 2001), and this further minimizes resistance to conformity to the norms (Secord & Backman, 1964).

Low cohesiveness implies wide variation in conformity to standards and norms, whereas members of a cohesive group gain intrinsic pleasure from

complying with social norms and behavioral standards (Secord & Backman, 1964). Methods of surveillance are utilized for supporting the norms in groups in which conformity is not rewarding in itself (e.g., monitoring working hours, sickness absence, vacations, and work activity) (ibid.). Sanctions for deviation from the rules range from inclusive reactions (against situational deviance) aimed at reintegrating the person into the social structure and reality to exclusive responses (against character deviance) involving isolating the 'hopeless deviant' from the group in order to avoid harmful effects on consensus and conformity (Orcutt, 1973). The reactions and sanctions depend on the scope, stability, and value-centrality of the deviant behavior (ibid.).

Leaders may promote the acceptance of norms (Vandenberghe, Bentein, & Stinglhamber, 2004), thus leadership and management may turn a less cohesive group into a more productive one. The fit between leadership style and the needs, expectations, and abilities of the group members (in terms of authority, leader support, being a role model, or mentoring, for example) influences the extent to which the members follow the example and direction of the leaders (Mikalachki, 1969). Overall, leaders are key members of the organization who ensure the maintenance of congruent norms and goals among different nested groups and units (Lewin, 1948; Schein, 1965).

Cohesion strengthens social control (Horne, 2001), and results in the *rejection of deviates* (Schachter, 1951). The stronger the bonds are among group members, the more they rely on one another and the more difficult and dissatisfying it is to depart from the shared norms (Festinger et al., 1950). *Deviance*, in other words the serious disregard of norms and standards, is considered a violation of group trust (Henderson, 1985), and therefore quick, consistent action should be taken to encourage a return to acceptable behavior and ways of thinking (Horne, 2001; Schein, 1990). If the situation leads to hazing activities, cohesion eventually suffers due to the negative effects on the group atmosphere (Van Raalte, Cornelius, Linder, & Brewer, 2007). However, it is common for members who do not conform to be rejected and even isolated from the core processes of the group (such as interaction, decision-making, and/or informal social events) until they meet the behavioral and attitudinal standards (Festinger, 1950; Festinger et al., 1950).

In sum, cohesion is a necessary property in any group in that it increases the amount of influence (constraints and prescriptions) exerted and accepted by the members on their values, attitudes, and behavioral rules. A cohesive group thus has more power over its members (Festinger, 1950; Schachter, 1951; Shaw, 1981). Cohesion intensifies the social pressure to conform to group norms (Kidwell, Mossholder, & Bennett, 1997; Prapavessis & Carron, 1997b; Rutkowski, Gruder, & Romer, 1983), and even makes the members disregard their own opinions and adopt the opinions of others (Janis, 1972; Rovio et al., 2009; Secord & Backman, 1964). As a basic rule, the pressure towards uniformity varies as a function of cohesiveness (Shaw, 1981), the

relevance of the issue to the group (Festinger et al., 1971; Schachter, 1951), and the extent to which the members need to achieve their goals through their group membership (Festinger, 1950).

All in all, cohesion causes changes in the values, interests, and beliefs of an individual (Festinger, 1950; Johns et al., 1984), produces uniform opinions, attitudes, and behavior (e.g., Festinger, 1954; Festinger et al., 1950; Lott & Lott, 1965), and reduces the amount of deviation from group norms and standards (Schachter, 1951). The literature accentuates the role of norms in determining the effect of cohesion on performance (Carron, 1982; Schachter et al., 1951; Stogdill, 1972) – they either encourage or inhibit productivity (Brown, 2000; Wesbrook, 1980). In conclusion, "cohesion is like a pipe through which any kind of normative content may flow" (Etzioni, 1975, p. 283). Cohesion strengthens the flow (in the pipe), but group norms and standards regulate its direction. Consequently, clear goals and task-oriented norms are essential in putting intensified group energy to productive use.

3.4 LEADERSHIP AND SOCIAL INTEGRATION

The quality of the leadership in primary and secondary groups affects organizational and institutional bonding among the unit members and influences their horizontal and vertical cohesion as a group. Caring, respectful, competent, and committed leadership supports the development of strong *primary-group cohesion* (Bartone & Kirkland, 1991; Bartone et al., 2002; Ingraham & Manning, 1981; Kirkland, 1987; Manning, 1991), whereas *secondary-group cohesion* depends on the extent to which the leaders articulate and model the values, norms, and activities of the unit and act as the links to the same, higher, and lower hierarchical levels in the organization (Likert, 1961). The following section describes the characteristics that facilitate unit cohesion, and assesses the importance of leaders as convoys representing different organizational entities.

3.4.1 LEADERSHIP CHARACTERISTICS AND BEHAVIOR IN A COHESIVE GROUP

How the leader affects the group members depends on his or her personality *characteristics* (e.g., charisma) (Bartone, 2000; Grice & Katz, 2005b; Schein, 1965; Weber, 1947) and leadership style and behavior (Vogelaar & Kuipers, 1997). In terms of personality characteristics, an adequate level of intelligence (Judge, Colbert, & Ilies, 2004) together with extraversion and openness explain successful leadership (Judge, Bono, Ilies, & Gerhardt, 2002). Popper, Amit, Gal, Mishkal-Sinai, and Lisak (2004) distinguished three prerequisites psychological attributes for effective leadership: (a) self-

confidence, such as an internal locus of control (Rotter, 1966), self-efficacy (Bandura, 1977; 1986) and low trait anxiety (Sarason, 1975), (b) a proactive orientation, and (c) a capacity for prosocial relationships. They compared leaders with non-leaders, and concluded that leaders had significantly higher levels of optimism, an internal locus of control, self-efficacy, a more secure attachment style, and lower levels of anxiety and avoidance (Popper et al., 2004).

It is not only personality characteristics that define leadership qualities. Someone with all the skills and knowledge required of a successful leader and facilitator of group cohesion, will be ineffective unless he or she is willing to take the responsibility (Popper, 2005; Popper et al., 2004). Therefore, prospective leaders should possess values and aspirations that are in harmony with those of the organization and are aligned with its mission and goals, that promote the desire for leadership, and provide a reference on which to build commitment. The literature emphasizes the importance of leader commitment in this regard in terms of generating cohesion in the group. Karrasch (2003) notes how commitment is related to leadership in that weakening affective commitment is detrimental to leadership behavior. Moreover, subordinates' perceptions of their leaders' commitment influence the development of vertical cohesion (Bartone & Kirkland, 1991), and united and committed leaders attract more cohesive and committed followers (Bartone et al., 2002). On the other hand, the more united the subordinates are, the more they expect their leader to respect the unit mission and to maintain the high standards (Kirkland, 1987). In conclusion, Johns and his colleagues (1984) adroitly highlight the importance of leader commitment in building cohesive units, arguing that without leaders who are morally committed to the institution there will be no cohesive organization.

Given that personality characteristics are related to successful leadership, and that the leader could influence many people in the organization, the findings mentioned above pertain to the necessity of carefully *selecting* people for leadership positions. Assigning the role to the most qualified person on each hierarchical level (Henderson, 1985) ensures the most positive effect on unit cohesion. Although personal traits and attributes are relevant, personality is of less consequence in terms of the leader-subordinate relationship because leadership style and behavior determine the impact on member commitment (Kane & Tremble, 2000), group cohesion (Bass & Avolio, 2000), and performance (Grice & Katz, 2005a). In other words, the personality of the leader has an indirect effect on the extent to which he or she is able to develop cohesion in the group. This relation is moderated by leadership style.

Any *leadership style* that is valued by the members is affected by the *group functions* (Zaccaro, 1981). For example, a task-focused group expects the leader to emphasize task motivation, cooperation, and coordination in order to facilitate taskwork. On the other hand, a social group expects caring, supportive leadership that protects its members from stressful situations and

higher authorities, balances social conflicts, and identifies and takes care of their social and emotional needs. These distinct leadership behaviors are categorized as supportive vs. directive (Wendt, Euwema, & van Emmerik, 2009), or considerate vs. initiating structure (Shields, Gardner, Bredemeier, & Bostro, 1997) as detailed below.

The Ohio State Leadership Studies comprised a ten-year interdisciplinary program initiated in 1946 in which leader behavior was categorized based on subordinates' perceptions (Halpin, 1956). The studies identified two major leadership behaviors: consideration vs. initiating-structure-in-interaction (Halpin, 1955). Consideration encourages friendship, mutual trust and respect, and good relations between the leader and the subordinates (ibid.). On the other hand, an initiating structure implies behavior aimed at establishing a clear order and well-defined patterns in a unit in order to clarify roles, maintain high standards, support the division of labor, and get the members to follow the rules and procedures (Eagly & Johnson, 1990). As expected, leader consideration facilitated group members' satisfaction, whereas an initiating structure supported performance particularly in stressful situations (Halpin, 1954; Schriesheim & Murphy, 1976).

Correspondingly, leaders' consideration of and support for the social structure affect team cohesion, whereas their directive efforts at improving group performance develop the members' commitment to the task (Kozlowski, Gully, McHugh, Salas, & Cannon-Bowers, 1996). Naturally, the focus may shift from a social orientation to a task orientation as members acquire task-related knowledge and skills through their membership, and therefore leadership should also adjust to the developmental changes in the group.

Leaders also demonstrate interest in the welfare and development of their followers by communicating relevant *information* to them (Bartone & Adler, 1999). In turn, the followers become dependent on the messages and see the leader as a dominant and reliable informant (Hardin & Higgins, 1996). Leaders should inform their followers about the schedule, the purpose of the practices, the required preparations and actions, and their perceptions of the group's performance (Meyer & Allen, 1997). Carefully distributed information and feedback serve to fulfill the followers' needs (Johns et al., 1984), and support unit cohesion (Bartone & Adler, 1999).

Leader support is a mechanism that can enhance the cohesiveness and effectiveness of the unit in that it boosts satisfaction (Herold, 1974), task motivation, and positive attitudes toward the organization (Weiner, 1990). In providing different kinds of support the leader serves varied purposes. Leader support creates subordinate trust (Lapidot-Raz, 2002), and both task and emotional support buffer against the negative outcomes of stress (Griffith, 2002). Whereas the focus of emotional support is on the individual and his or her adjustment and well-being, the main goal of task support is group-related in terms of helping members to perform in a manner that makes the group's goals achievable. Emotional support enhances the

psychological adjustment of the members, which has a positive effect on self-esteem and performance motivation (Weiner, 1990). In offering task support the leader demonstrates his or her proficiency and knowledge in terms of teaching and guiding his or her subordinates (Knouse, 1998; Siebold & Kelly, 1988b). In particular, he or she lays the foundation for task performance by establishing the roles, norms, task-oriented activities, and specific goals of the group (Grize & Katz, 2005b).

The *organizational structure* influences the impact of leadership on cohesion. Leadership is potentially more salient in this regard in organizations in which there is a clear hierarchy and appointed leaders on each level. Hierarchical position serves as a source of power, provides legitimacy for leadership, and is at least a minimal reason why the appointed person should be regarded as a leader. Military leaders are distinguished by rank, and perhaps by other emblems that imply their influence on others. The leader position is clarified by regulations that state the conditions for command relationships and responsibilities among the different actors. Even here, however, the leader's influence is moderated by the perceptions of the subordinates. In other words, the leader has control over others only as long as the subordinates perceive that he or she has legitimate power and serves the appropriate goals and values of the primary group. The respected leader, in turn, gives legitimacy to the organizational goals and the overall mission (Gal, 1986b).

The perceived *structural distance* of the leader manipulates the extent of leader-subordinate bonding in the unit. Structural distance refers to the physical, organizational, and supervision structure of the unit (Napier & Ferris, 1993). It moderates the effect of leaders on cohesion at the different hierarchical levels due to the varying frequency and quality of interaction between subordinates and immediate superiors (ibid.), and to subordinates' varying perceptions of close and distant leaders (Antonakis & Atwater, 2002). *Physical distance*, for example, is directly related to the number of contacts and the quality of communication between leaders and their subordinates (Chen & Bliese, 2002; Shamir, 1995). Consequently, leader cohesion may be enhanced by increasing the physical proximity of the group members and their leaders, and hence decreasing the structural distance (Holz, 1986).

The *organizational structure* (e.g., span of control, hierarchical levels, and centralized management) is the second element of structural distance (Avolio et al., 2004). Just as structural barriers reduce the frequency of interaction between leaders and their subordinates (Napier & Ferris, 1993), the presence of a hierarchy may decrease vertical cohesion. Howell and Hall-Merenda (1999) support this argument in pointing out that close leaders have more opportunities for making direct contact and interacting with their subordinates, which in turn supports subordinate trust.

The *supervision structure* also affects cohesion, and there may be considerable differences between leader positions and their relative impact

on interpersonal relations and primary-group cohesion. For example, military commanders belong on the secondary-group level as official representatives of the formal organization (Pipping, 1988; Yagil, 1995). They typically commanders over-emphasize their own influence on unit performance, and may even believe that it is their efficiency that contributes to unit effectiveness (Yagil, 1995). This may be true, but only if the commander's effectiveness encourages subordinates in their performance. Another misinterpretation among commanders is that they perceive vertical bonding to be more valuable than it is (ibid.).

In fact, the agents who affect unit cohesion the most are not managers or unit commanders, but leaders who operate on the lowest level of meaningful groupings (i.e., in teams and small groups) (Bass & Avolio, 2000; Yammarino, 1994). The reference-group leaders are the primary agents through which members build up their relationships with the rest of the organization (Shils & Janowitz, 1948). Close leadership operates through personal contacts with subordinates, and is characterized by direct, spontaneous interaction and relations, face-to-face evaluation, and personal acquaintance (Dvir & Shamir, 2003). On the other hand, *management* refers to the utilization of an "impersonal process of rules and regulations based on bureaucratic authority vested in one's position" (Johns et al., 1984, p. 7). On the management level, leaders spend most of their time on personnel administration and processing the planning of organizational activities (Popper & Gluskinos, 1993). Interactions are less spontaneous (Popper, 2004; Yammarino, 1994), and direct contact with people on the small-group level is limited, often restricted to problematic or exceptionally competent members (Johns et al., 1984). In sum, the leaders of secondary groups are more distant, the relationship is formal and unilateral, and their influence is strongly moderated by public image, lower-level of leaders, shared perceptions, and followers' expectations (Mayseless & Popper, 2007).

Unit cohesion is a function of the quality of the leaders (their character, integrity, and competence) (Savage & Gabriel, 1976). In essence, *care and competence* are the main dimensions of leadership quality (cf. Alderks, 1992; Bartone & Adler, 1999; Furukawa et al., 1987; Grice & Katz, 2005b; Griffith, 2002). Particularly in a task-oriented group, personal *competence* is a precondition for successful leadership (Furukawa et al., 1987; Kirkland, 1987). A competent leader is able to gain his or her subordinates' trust and confidence (Kirkland, 1987), which signifies that they are receptive to his or her influence (Hollander, 1970) and perceive him or her as a legitimate leader (Chemers, 2000). Competence indicates, in particular, instrumental utility. An effective, competent leader knows how to organize work (Bartone & Kirkland, 1991), increases the potential of subordinates, and keeps them challenged and interested in their work or training (Kirkland, 1987). The group will perform better and achieve its goals if the leader knows the abilities of the members and the necessary procedures, and has the skills to give effective task support.

Research results suggest that leader competence, unit cohesion, and performance are mutually related, and that performance mediates the relationship between competence and cohesion. For example, in the military context Bartone and Kirkland (1991) found that the way and the extent to which the capable leader promoted the achievement of group goals determined soldiers' identification with him or her. According to Kirkland (1987) on the other hand, a captain with average knowledge never has an effective, cohesive unit, whereas one with expertise may also have an outstanding unit. Basically, a leader who has abilities and competences that enable him or her to lead and protect the group under any circumstances (George, 1971; Henderson, 1985) has the potential to foster unit cohesion.

Even if the leader is competent however, he or she is not able to exploit the full potential of the group without satisfying its members' basic social needs (Schein, 1965; Weiner, 1990). This alludes to another dimension of leadership, termed *care and concern* (Bartone & Adler, 1999). Caring leaders show concern (Shils & Janowitz, 1948), keep promises (Furukawa et al., 1987), and look after their soldiers (Labuc, 1991) and their interests (Wesbrook, 1980). Excellent leaders care for and respect their subordinates, keeping them informed, planning and using their time and energy effectively, paying attention to their welfare (Kirkland, 1987), and listening to their problems, questions, and suggestions (Bartone & Kirkland, 1991; Phillips, Douthitt, & Hyland, 2001). Moreover, the caring leader promotes the psychological welfare (Lewin, 1948; Mikalachki, 1969) and performance of the group (Zaccaro et al., 2001) in terms of recognizing and resolving interpersonal problems and conflicts (Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Tekleab, Quigley, & Tesluk, 2009).

Leadership is a relational attribute (Hogg, 2001; Tziner & Vardi, 1982), sensitive to the social context (Schriesheim, 1980) and the quality of interpersonal relationships (Popper, 2004). Consequently, the quality of the personal relationships between the leader and his or her followers shapes primary-group cohesion (Jowett & Chaundy, 2004). Manning and Ingraham (1983), for example, distinguished the five most cohesive units from the five least cohesive based on questions about the informal leader-follower relationships in the unit, such as whether the leaders talked with people personally, and whether he or she was included in off-duty activities.

Bonds between the leader and his or her followers are based on *trust* (Todd, 1992), which is hard to build and easy to destroy (Fine & Holyfield, 1996; Kirkland, 1987). Trust is nurtured in positive leader-member exchange when the fair, honest, consistent, and competent leader keeps promises, makes decisions in a reliable fashion, promotes followers' interests, communicates freely and straightforwardly, gives and accepts suggestions, and is available when needed (see Butler's (1991) 10 trust-enhancing behaviors).

The quality of *leader-member exchange* (the same as the quality of the relationship between the leader and the follower) is uniquely and positively

related to affective commitment to the leader (Vandenberghe et al., 2004), indicating the importance of a good relationship in the creation and maintenance of vertical cohesion in the group. As Bartone and Kirkland (1991) reason a good leader shows real interest in his or her followers' welfare and personal growth through informal conversation, teaching and providing feedback, and being present at social activities. The leader who behaves in such a fashion is able to maintain face-to-face contact and learn to know his or her subordinates personally, not just by name and background but also in terms of their abilities, needs, attitudes, problems, and desires. Moreover, the leader who knows the group members well is able to adopt an appropriate leadership style, recognizes their strong and weak points, gets more out of them, and handles potential problems before they are exposed (Kirkland, 1987; McBreen, 2002).

In particular, *transformational* (Popper et al., 2004) or *socialized* (House & Howell, 1992; Howell, 1988; Popper, 2005) leaders have been found effective in maintaining positive leader-member exchange and in promoting prosocial relationships in the group. Burns (1978) introduced the distinction between transactional and transformational leadership, and due to the seminal work of Bass (1985) these two primary sets of leadership styles have received extensive attention in the literature. *Transactional leadership* relies on an exchange-based influence between leaders and subordinates. A transactional leader gives clear performance direction, follows the actions of his or her subordinates, and motivates future performance by giving positive feedback and rewards, or through reproval, criticism or even punishment if they do not follow the set rules, directions, and routines. In brief, such leaders give rewards based on their subordinates' obedience and performance (Grice & Katz, 2005b; Kane & Tremble, 2000; Popper et al., 2004). This kind of leadership style is suitable for instilling and maintaining standard behavior in the organization (e.g., during the socialization process), or executing scheduled and predetermined actions when the actor has only a few options for fulfilling the requirements (Salo, 2004). The benefits of transactional leadership are thus visible (a) in temporary groups in which task and instrumental aspects are more important than social cohesion, (b) in an inexperienced group, and (c) under temporary stress when there is no time for group discussion and the leader gives the main directions (Grice & Katz, 2005a, 2005b).

Despite the benefits of transactional leadership in the case of relatively simple routine tasks it is not conducive to outstanding group performance in the long run. This is due to the fact that the followers just implement the instructions of the leader without giving any significant input of their own. Therefore, the creativity of the leader sets a limit on performance, and the level of production is determined by the efficiency of the leader's persuasion, the attraction of the rewards, and the fear of reprimand.

Transformational leadership behavior focuses on tasks (as does transactional leadership) but also on the emotional needs of subordinates

and the continuation and development of the group experience (Kane & Tremble, 2000). Specifically, the long-term success of such behavior is attributable to its positive effects on subordinates' work attitudes and behavior (Dumdum, Lowe, & Avolio, 2002), satisfaction (Lowe et al., 1996), job motivation, willingness to put in extra effort (Kane & Tremble, 2000), and commitment (Shamir et al., 1998), all of which are positively reflected in individual and group performance as well as in group cohesion (Bass & Avolio, 2000).

The transformational leader thus gains the trust of followers and increases their commitment to the leader, his or her goals, and the whole group (Grice & Katz, 2005b). This highlights the four main elements of transformational leadership: (1) charisma (i.e., idealized influence), (2) inspirational motivation, (3) intellectual stimulation, and (4) individualized consideration (Avolio, Bass, & Jung, 1999). In other words, the transformational leader is perceived to be charismatic, which means that the group members identify with him or her and try to assimilate his or her behavior, values and beliefs. Secondly, his or her followers are inspired by the task and the purpose of the group, and strive to reach individual and group goals due to their understanding of the broader meaning of their actions. Thirdly, their whole intellectual capacity is challenged and put to use, and the group members are allowed to cooperate and to think creatively in order to find new and/or the best solutions. Fourthly, they receive individual consideration and support, as well as coaching for personal growth and development. As a consequence, those who are exposed to transformational leadership (1) admire, respect, and trust their leader, (2) are motivated and committed to the shared goals and vision, (3) find innovative and creative solutions to problems, and (4) satisfy their unique needs and desires and develop their full potential (Avolio et al., 2004; Kane & Tremble, 2000).

Transactional leadership differs from transformational leadership in the way the leader earns the trust of his or her followers (Grice & Katz, 2005a): the transactional leader relies on attractive compensations whereas the transformational leader, without any need to give explicit rewards, draws on the psychological mechanisms that build commitment between people. Another major difference between these two leadership styles is that whereas the transactional leader is interested almost exclusively in the operation of an act (i.e., a transaction), the transformational leader promotes the personal growth and development of his or her followers as well as effective teamwork (i.e., transformation of the person and the group). Groups members working under transformational leaders tend to communicate more openly, listen to one another, and challenge and inspire others (Bass & Avolio, 2000). The result is motivation and performance 'beyond expectations' (Avolio, 1999; Bass, 1985, 1998; Hater & Bass, 1988), the benefits of which are obvious particularly when the emphasis is on maximum performance (Lim & Ployhart, 2004).

Thus far the discussion in this section has focused on how caring and competent leaders who master the four components of transformational-leadership behavior strengthen cohesion in the group. Given that the leader creates bonds with his or her followers, thereby providing a basis for vertical cohesion, it is argued in the following paragraphs that other dimensions such as peer and organizational cohesion, are also most likely to be reinforced through leadership.

There are several *positive by-products of leader-subordinate cohesion*. Positive bonds between the leader and the group members benefit both the group and the organization. For example, Mael and Alderks (1993) found that leader-subordinate cohesion explained peer cohesion and effectiveness in military platoons best, and was significantly related to identification with the institution (e.g., the Army). Basically, vertical cohesion gives the leader more opportunity to influence the behavior of group members (Griffith, 1986b). As a consequence, the leader's intentions and directions are implemented more effectively in groups with strong leader cohesion, meaning that the leader more easily reinforces the goals and norms, and defines the main group activities (Grice & Katz, 2005a).

The leader influences group cohesion directly through his or her behavior (Bass, Avolio, Jung, & Berson, 2003; Shields et al., 1997) and indirectly by constructing a supportive work or learning climate within which it can develop (Vaitkus & Griffith, 1990). According to Smith and Hagman (2004), for example, leader effectiveness and a learning climate are the two best predictors of social cohesion. They also found that leader effectiveness was strongly related to task cohesion, explaining 72 percent of variance (ibid., p. 36).

Leadership behavior and style also affect the performance, attitudes, and commitment of followers, and group cohesion in general. Bartone and his associates (2002) show how effective leadership during an exercise results later in strong group cohesion, indicating that leaders have a team-building effect. Siebold (1996, p. 268) attributes this kind of effect to the fact that strong leadership "inspires group members to bond to one another and go beyond themselves in commitment to achieving an elevated goal." Similarly, Deluga (1995) observed that followers' perceptions of a trusting relationship with the leader persuaded them to exceed formal job requirements. Providing clear evidence that cohesion, high-quality leadership, and effectiveness are closely connected, Bass and Avolio (2000) compared strengths and weaknesses in platoons exposed to high and low levels of transformational leadership, and found that cohesion was the most frequently reported strength in the former.

Leadership behavior that mirrors *care and competence*, or in the language of transformational leadership *charisma, motivation, stimulation, and consideration*, props up social and task cohesion as well as peer and vertical cohesion in the group. In terms of cohesion, the efficiency of such behavior could be attributable to the leader's positive effect on both the social

(emotional) and the task (instrumental) level, which in turn brings about excellent performance motivation. In conclusion, the literature suggests that the leadership behavior is key factor in differentiating cohesive (and successful) groups from their mediocre counterparts (Bartone & Kirkland, 1991; Bass, 1990; Bass & Avolio, 2000).

3.4.2 LEADERS AND LINKING-PIN EFFECTS

The previous section illustrated how the leader has the potential to positively affect the primary-group cohesion and performance. This section expands the focus beyond the primary group and investigates the role of the leader as an intermediary between the primary and the secondary group. Likert's (1961) *linking-pin* concept is based on the assumption that the leader occupies a position between different organizational levels, being a member of at least two hierarchical groups at the same time (Ingraham & Manning, 1981; Manning & Ingraham, 1983). He or she is a representative of the larger organization (Weiner, 1990), responsible for interaction and integration beyond subgroup boundaries (Frank, 1995; Ingraham & Manning, 1981; Likert, 1961). On the other hand, the leader conveys the needs and requests of individuals to the organizational level, while communicating, translating, and justifying the rules, standards, and performance expectations to his or her followers (Deluga, 1995; Furukawa et al., 1987; Henderson, 1985), confirming what is appropriate and important for a functioning group (Siebold & Kelly, 1987a), and internalizing the norms and values of the organization and the institution (Johns et al., 1984). A linking-pin leader thus establishes the context and meaningfulness for individual behavior and group activities, and persuades and even enforces subordinates to behave and perform in accordance with shared norms and goals (Henderson, 1985; Kirkland, 1987).

Leaders model organizationally valued behavior and attitudes (Devilbiss & Siebold, 1987). Through *role modeling* they set examples of behavior and performance, regulate standards, and set the goal toward which followers are expected to strive (Saaristo, 2002). Correspondingly, subordinates may wish to be like the leader, and to identify and bond with him or her (Taylor et al., 1996). Role modeling may be even more relevant in military than in civilian leadership because the military leaders are expected to be all-powerful experts and problem solvers who are "the first to advance," even in the most difficult situations (Henderson, 1985, p. 143). Thus, the military leader is assumed to be exemplary in terms of sharing the burden of threat and troubles in the group in order to maintain authority and to facilitate good relationships with followers. Pipping (1988, p. 10), for example, gives an example of what happens if a Finnish leader does not participate in the group activities as much as his or her subordinates: "An officer who did not follow his platoon in the fire, or who only occasionally visited the line, ran the risk

of being shot by his own soldiers during combat." On the other hand, a leader sharing hardships with the group members is more respected by his or her subordinates (Holz, 1986).

Leaders have the opportunity to integrate the primary group into the larger organization through leader-subordinate bonding (Bartone & Kirkland, 1991; Johns et al., 1984). Group members who relate positively to and identify their leader comply more willingly with organizational demands (Wesbrook, 1980) and possess personal goals that are increasingly integrated with organizational goals (Butler et al., 1987). The leader may support the linkage between the follower and the organization by clarifying the shared group goals and keeping them in harmony with the organizational purpose (Griffith, 2002), and generally alleviating the dissonance between the requirements of the organization and the needs of the individual (Henderson, 1985).

Identification with the leader involves identification with the norms and goals he or she represents. Perhaps the clearest indication of successful leadership is when the group norms reflect the organizational values (Bartone & Kirkland, 1991). The more closely people bond with the leader, the more committed they are to his or her goals (Etzioni, 1975; Gal, 1986b; Manning & Ingraham, 1983). When these goals match the organizational objectives, the link between the group members (and their attitudes and performance) and the organization (and its goals and standards) is established (Likert, 1961; Manning, 1991). If the leader links the hierarchical groups together, (a) information and feedback flow profusely, thereby supporting the functioning of the whole system of which the primary group is part, (b) the organizational efficacy of the primary group is enhanced, and (c) the group members are more likely to be motivated by the organizational goals and purposes (Katz & Kahn, 1978).

The leader integrates his or her subordinates into the organization and its goals (Saaristo, 2002) by various means: articulating a clear and inspiring vision, clarifying by setting concrete goals and sub-goals, defining the role of the group and the unit in the mission, specifying the tasks, personal roles, and individual and group rewards related to the desired behavior, allocating responsibilities for every person, and coordinating the accomplishment of the group tasks (Avolio et al., 2004; Knouse, 1998; Labuc, 1991). A shared vision, clear goals, and joint actions in pursuit of them sustain the follower's sense of self-worth, collective efficacy, and the meaningfulness of group and organizational membership, and build up identification with the goals of the leader and commitment to the organization (Bass & Avolio, 2000) while serving the self-improvement needs of the follower (Taylor et al., 1996). In terms of leadership behavior, an emphasis on collective identity and supportive leader behavior correlates significantly with member attachment to and identification with the unit (Shamir et al., 1998), and supportive leadership positively influences team cohesion (Wendt et al., 2009).

Leaders have the ability to transform organizational values into specific individual and group behavior (Ashforth & Johnson, 2001). They can make their followers proud of their work and unit by creating satisfaction and organizational bonding (Phipps, 1982; Siebold & Kelly, 1987a). If the group members identify with the (organizational) goals and values of the leader, there is most likely to be strong group and organizational cohesion in the unit (Johns et al., 1984) as well as performance success. There is also evidence in the literature of a positive association between performance and followers' relationships and/or identification with the leader. Weiner (1990), for example, found in the military context that positive perceptions among junior enlisted soldiers of their leader and identification with the organization and its goals explained good performance motivation. In their study on sport-team cohesion Carron and Chelladurai (1981) found that athlete-coach compatibility and team cohesion led to satisfaction and good performance. Becker (1992; Becker, Billings, Eveleth, & Gilbert, 1996), in turn, found in the context of work groups that commitment to the supervisor (and his or her goals and values) was more strongly related to performance ratings than commitment to the organization. Vandenberghe and his colleagues (et al., 2004) reported the same findings in their research on group work. Thus, previous research on leadership and cohesion in different kinds of organizations has identified successful performance and strong cohesion among group members who have had good relationships and strong identification with their leader.

Etzioni (1975) uses the term *rank cohesion* to refer to bonding between people of the same rank. Siebold and Kelly (1988c), in turn, found that a united, cohesive leadership team was related to higher cohesion among unit members, and Siebold (1996) discovered that leadership-team cohesion was related to soldiers' pre-mission motivation and later leadership effectiveness. On the other hand, Mael and Alderks (1993) suggest that disharmony among leadership relations can invalidate peer cohesion, whereas leadership-team cohesion does the opposite by improving group members' confidence in the unit and perceptions of its effectiveness. Bass and Avolio (2000) demonstrate the linkage between leaders' mutual relationships and platoon performance by showing that the leaders in the worst performing platoons did not listen to one another and ignored one another's opinions. Vogelaar and Kuipers (1997) also found that platoon leaders needed one another in order to achieve successful results since, according to the data, the group leaders' effectiveness depended on the effectiveness of the platoon leader and his or her deputy. Correspondingly, the results of Saaristo (2002) emphasize the congruence in status on different leadership levels. In particular, when the members committed more strongly to the deputy leader than to the platoon leader, the platoon was less effective than when they had strong instrumental bonding with the platoon leader.

The leader cannot genuinely affect group norms if he or she is socially excluded from the group and is tolerated by the members only because of his

or her official position (Weiner, 1990). A leader with only a superficial role in the group has no meaningful impact on its informal activities and cannot influence the extent to which the members bond with the organization. Poor leader-subordinate bonding with one or several leaders is apt to result in negative group behavior (Sterling & Williams, 1982). Alderks (1992) examined *breaks in leader-subordinate cohesion*, referring to the point at which confidence in the leader is lost or markedly weakened and found that breaks at the lower leadership level were associated with poorer group performance, which supports the findings and suggestions mentioned above. In terms of strong and durable organizational cohesion, the leader's main function is to create and maintain an unbroken chain of subordinate bonding to different organizational elements (Siebold, 1988) between the social group, the task-performing group, group leaders, the unit or department to which the group belongs, the larger organization, and the institution that gives a purpose to the existence of lower-level groups and units.

Given that leaders are the envoys of the organization to the group, and vice versa, it is essential that they maintain a high level of personal moral standards (Siebold & Kelly, 1987a). Those who abandon organizational goals and norms and replace them with their own do not promote unit cohesion (Vaitkus, 1994), and definitely do not perform the linking-pin function. For example, low job involvement in leaders decreases their subordinates' involvement over time (Savell et al., 1995). If they do not bond on organizational, institutional, and societal levels, their promotion of the mission and higher purpose would seem hypocritical. A different kind of problem arises if the leader is competent and has gained the trust of his or her followers but his or her values and attitudes are fundamentally different from those of the organization. In that case the leader's effort may be detrimental to the attainment of organizational goals (Butler et al., 1987).

Unfortunately, even one poor leader may have a detrimental effect on his or her followers' well-being and performance. An inept, incompetent and indifferent leader can easily harm subordinate motivation (Siebold, 1996), unite group members against his or her (Bartone & Kirkland, 1991), and separate the group from the larger collective (Siebold, 1988). If the leader fails to link and align the group and its members with organizational values and standards, the effectiveness of the unit decreases (Siebold, 1996), and the small groups may start to rebel against organizational norms and goals (Henderson, 1985; Schein, 1965).

In sum, Likert (1961) singled out the main benefits and indicators of the linking-pin function of the leader: to smooth over the differences between the informal primary-group and the formal secondary-group structure so that the primary group will not limit the performance of the secondary group, and both will work toward the same organizational goals. In terms of leader-subordinate bonding, three factors are at play: (a) the personal characteristics of the leader should be such that they increase subordinate trust and confidence (i.e., charisma as an affective source of bonds and

competence that binds instrumentally), (b) the support he or she gives (i.e., 'individual consideration' or 'emotional support' that serves the affective needs of the group members in particular), and (c) the ability of the leader to engage his or her followers in effective and creative work in the unit, and consequently to achieve the organizational goals (by providing 'task support' or 'inspirational motivation' and 'intellectual stimulation').

3.5 ORGANIZATIONAL EXPERIENCES IN SECONDARY GROUPS

The organization provides specific objects of bonding and commitment, and creates secondary group experiences that promote unit cohesion (Henderson, 1985). It creates the circumstances that facilitate interpersonal relationships, leadership, mutual efforts, and shared experiences, which in turn affect social cohesion. Moreover, the organizational reality affects the functions and processes of the small unit (Butler et al., 1987), indirectly influencing the affective and instrumental bonding of the members. These mechanisms encourage members to support one another, follow the example and orders of the chain of command, and explicitly demonstrate loyalty to and pride in the unit and the institution (Henderson, 1985; Siebold & Kelly, 1988a). Moreover, organizational characteristics affect the extent to which members of the primary group bond with and commit to the secondary group, such as the unit, the management, the organization, the institution, and respective values and traditions. This section reviews the existing literature with regard to the organizational characteristics that are related to unit cohesion and personal commitment.

The *socialization process* serves to maintain the synergy of the group through the indoctrination of its members, the implementation of certain roles, and the routinizing of appropriate behavior and performance. It also involves instilling an implicit control system that coordinates and directs attitudes and behavior even without the presence of other people. Socialization thus facilitates both the maintenance and the management of organizational subsystems (cf. Griffith, 2004; Katz & Kahn, 1978), both of which are essential for the group to function.

The socialization process constitutes a useful tool for uniting perceptions, organizing shared experiences, and forming intact units. It is intentionally targeted on the attitudes, beliefs, perceptions, habits, and behavior of individual members, and on their manipulation in order to standardize appropriate sentiments in the group (Katz & Kahn, 1978) and to establish cooperative interpersonal relations and adequate norms (Brickson & Brewer, 2001; Siebold, 1993). The aim is to integrate people into the unit and get them to conform to its norms and behavioral standards (Johns et al., 1984). Unwittingly, newcomers start to accept the new set of values and beliefs that

group membership requires (Lewin, 1948). The ultimate product of the socialization process is a person who willingly sacrifices his or her own welfare for the benefit of the unit, who personally directs his or her behavior and attitudes in order to comply with organizational and institutional values, and whose self-esteem and values derive from membership of the organization.

Well-planned socialization preserves the organizational culture (Schein, 1990), sustains the values and beliefs (Ashforth & Mael, 1989; Devilbiss & Siebold, 1987; Dvir & Shamir, 2003; Franke & Heinecken, 2001), intensifies social identification (Griffith, 1988), and produces positive organizational attitudes (Payne & Huffman, 2005) such as respect for authority (Griffith, 1988; Vaitkus & Griffith, 1990) and loyalty and commitment (Franke & Heinecken, 2001). Through socialization an outsider is turned into an effective member of the group with the appropriate skills, role behavior, and values (Feldman, 1981; Griffith, 2009). He or she starts to believe in the value of participating in the group and in the obligation to do so (e.g., Meyer & Allen, 1991), and as a result absorbs group membership into his or her self-concept. Feelings of self-worth become dependent on group membership (Brown, 2000). In the end, group goals and norms become criteria for personal behavior, the welfare of the group rises above personal welfare, and the members share a strong sense of belonging (Dvir & Shamir, 2003; Kozlowski, Gully, McHugh, Salas & Cannon-Bowers, 1996).

The socialization process is particularly prominent in total institutions in which group members are not able to influence the selection of other members (Kviz, 1978), and when the goal of the whole organization is to work reliably in unpredictable circumstances. In the military, for example, it is taken into account in training programs, unit assignments, and deployments (Vaitkus & Griffith, 1990). The organization attempts to unite the group members and minimize variation in behavior and attitudes by means of role modeling, rewards and punishments, social pressure (Meyer & Allen, 1991), leadership and discipline, and training (Griffith, 1988). Group members are integrated into the organization through the socialization process. Its purpose, history, uniqueness, and achievements are incorporated into the daily habits and rituals as normative behavioral and attitudinal standards, and reinforced through traditional events in which each new generation of soldiers is assimilated into the military institution (Johns et al., 1984).

Spending time together and experiencing the developmental process of the group help to unite its members. Tuckman (1965, 1970) analyzed and defined the developmental steps of the group as follows:

1. The forming stage during which individuals find their roles and place in the group and form interpersonal dependences with other members.
2. The storming stage during which the informal authority structure is established through the resolution of intragroup tension and conflicts, and competition for positions.

3. The norming stage, when common norms are approved and followed and the members start to become attached to the group and its members (the development of group cohesion; cf. Stogdill, 1972).
4. The performing stage, when the group carries out its tasks in pursuit of common goals.

At each stage of the group, the combination of salient factors of unit cohesion varies (Mangelsdorff, 1999; Siebold, 1999) as a result of the complex interactions (Widmeyer et al., 1993). Basically, the salient uniting factors vary as a function of the changes in personal growth, in the group dynamics, and in the external situation of the group (e.g., Siebold, 1987). During this developmental process, the emphasis may change from ingroup-centered, social, and leadership factors to unit- and outgroup-centered, task-performance, and management-related factors (cf. the trends in the results reported by Bartone & Adler, 1999; Carron, 1982). The forming stage, for example, necessitates the alleviation of uncertainty through the formation of trustworthy, dependable relationships, whereas the performing stage highlights information flow, effective cooperation, and the coordination of teamwork (Bartone & Adler, 1999).

Spending sufficient time together seems to be a necessary condition for the development of unit cohesion (Bartone & Adler, 1999; Bartone et al., 2002; Griffith, 1986a). Even the expected duration of membership affects orientation to the group and attachment to the members (Henderson, 1985). Moreover, there is a positive association between membership duration and both organizational commitment (Meyer & Allen, 1997; Tremble et al., 2003) and perceptions of leadership (e.g., within the command team) (Ardison et al., 2001).

Bartone and Kirkland (1991) identify four stages in the development of unit cohesion:

1. Horizontal cohesion develops during the first three months through the establishment of trust, interdependence, and a sense of achievement.
2. The peer-cohesive group then starts to identify with its leaders, which produces vertical cohesion.
3. Following the development of primary-group cohesion, the group builds its esprit de corps and a sense of competence (referring to organizational bonding and commitment to the mission and unit goals).
4. The group maintains its cohesiveness and readiness to sustain itself as an effective unit.

In short, peer cohesion is followed by vertical cohesion, on which commitment to the organization and the institution is built (ibid.).

Satisfaction with and perceptions of group membership and cohesion *change over time* as the members gain more knowledge and experience (Carron & Brawley, 2000; Carron & Spink, 1995; Levine et al., 1996; Siebold, 1996). Siebold (1989) studied the longitudinal development of group cohesion (over three years) and reported a U-shaped pattern: at the beginning there is a 'honeymoon' period, which turns midway to lower

cohesiveness, then mutual appreciation of group membership increases before the discharge of the unit. The *honeymoon* period (Siebold, 1996) covers the early stages of the formation and socialization process in which the group members still have *newcomers' optimism* (Vaitkus & Griffith, 1990) and are therefore enthusiastic about their new membership, the social relationships, and the new tasks. On the other hand, Bartone and Adler (1999) reported an inverted U-shaped pattern of cohesion (during a six-month peacekeeping mission), starting at a low level, increasing in the middle of the operation, and declining somewhat at the end.

Still, being together does not guarantee unit cohesion if the members have no mutual, meaningful experiences (Bartone & Adler, 1999; Bartone et al., 2002). In fact, the duration of membership in the unit has shown an ambiguous, negative association, with little consistent impact on perceived cohesion. It thus seems that unit cohesion tends to decline over time after the honeymoon period (i.e., exhibited entropy) (Bartone & Adler, 1999; Siebold, 1987; Siebold & Lindsay, 1999; Vaitkus, 1994; Yagil, 1995), unless the members are actively and productively engaged in performing tasks or developing their skills in their units (e.g., Bartone & Adler, 1999; Siebold, 1996; 2006). The research offers alternative explanations for this decline, such as shared *boredom* in the work situation (Yagil, 1995) or in the mission (Siebold, 1996), frustration with unmet expectations or being under poor leadership, and poorly organized unit life and performance (Siebold, 1987). Despite these downward trends over time, there are units that are able to sustain their strong cohesion. For example, meaningful tasks and goals and a sense of purpose may moderate the negative effects of organizational membership (ibid.). As a basic rule, the more cohesive and effective the group is, the more resistance it has against the negative forces of mission stress and boredom (Siebold, 1996).

In conclusion, these results imply that the group properties and the changes in situation may have an influence on the developmental process of cohesion in groups over time. In practice, there may be changes in the number of meetings and the level of attendance, in particular members, leaders and their roles, in the friendship structure, leadership behavior, the level of skills and knowledge, the group tasks and goals, and in group success and prestige. Moreover, changes in the unit and the external situation may impact the relative salience and strength of the uniting factors.

Cohesion requires a minimum period of time to develop (Bartone & Adler, 1999; Smith & Hagman, 2004). Therefore, stability within the group is a necessary albeit not a sufficient condition for the establishment of unit cohesion (Carron, 1982; Cowdrey, 1995; Henderson, 1985). *Stabilized groups* are more likely to be in close daily contact and to spend more time together, which allows the members to get to know one another better, creates mutual dependency, and unites the members' feelings and behavior (e.g., Secord & Backman, 1964). When unit members spend sufficient time together they learn more about each other's characters and competences, and settle into

their respective roles and responsibilities with regard to storing, sharing, and utilizing knowledge in order to facilitate faster decision-making and higher levels of performance (Levine, Moreland, Argote, & Carley, 2005). Being together and sharing experiences promote the development of trustworthy relationships among the group members, which in turn contributes to cohesion (Griffith, 1987). As a rule, the more stable the group membership (Newcomb, 1970), the more common group there is and the more cohesive the group is (Manning & Ingraham, 1983). Moreover, a stable group is more effective (e.g., in sports) (Widmeyer et al., 1993).

Stabilization enhances social interaction, buddy relationships, social support, training (Griffith, 1989), and cohesion building (Bartone et al., 2002). Stability and being together enhance familiarity and trust (Cowdrey, 1995), the predictability of interpersonal relationships (Butler et al., 1987; Vaitkus & Griffith, 1990), understanding of other people's roles and responsibilities, and comfortable communication and interaction patterns (Ingraham & Manning, 1981), all of which support the development of cohesion. Stabilization also allows the growth of mutual emotional investments (Etzioni, 1975), and facilitates the creation of mutual norms, goals, and values among people (Hogg & Abrams, 1993).

Cohesion develops in the military in groups that can remain intact long enough to produce shared experiences among the members (Manning, 1991). Unit stabilization supports friendship in particular, given the opportunity to form long-term relationships with other members (Vaitkus & Griffith, 1990). Moreover, expectations of continued membership encourage sharing of expertise across groups (Furukawa et al., 1987). Positive social relationships also have organizationally desirable effects in terms of commitment to practices and goals (e.g., Vaitkus & Griffith, 1990). Continual training and working together for an extended period of time build up individual, work-related skills and knowledge, and facilitate effective cooperation, coordination, and performance in a small unit (Ardison et al., 2001; McBreen, 2002). It has also been reported that members of stabilized groups are able to internalize performance standards and procedures and creatively utilize them in practice (Alexander, 1994). These are some of the reasons why military organizations train, accommodate, and deploy members of intact small units together (McBreen, 2002).

Low *personnel turbulence* maintains high cohesiveness (Henderson, 1985; Siebold, 1996). In contrast, turnover and individual replacements represent manpower turbulence and instability (McGinniss & Sanders, 2003), producing uncertainty in interpersonal relationships and interaction (Ingraham & Manning, 1981). Personnel turbulence breaks down the informal structure of social relationships (Siebold, 1988), disrupts the group members' network of trust and confidence (Bartone & Kirkland, 1991), and reduces the number of common experiences among the crew making it more difficult to create mutual dependence, common attitudes, and goals (Wesbrook, 1980). Turbulence weakens the cohesive forces in the small unit

(George, 1971; McBreen, 2002), disrupts the developmental process of the primary group (Bartone & Kirkland, 1991), and works against effective training and performance (Phipps, 1982), thereby lowering the unit's readiness (McGinniss & Sanders, 2003) and effectiveness (Butler et al., 1987).

Personnel turbulence without a clear reason indicates job insecurity, which in turn implies that the organization is less interested in life-time employment and predictable career paths and is more focused on short-term organizational benefits, to the detriment of team building and the social and instrumental interests of the labor force (Ellemers, 2001). As a result, individual group members may start to operate in accordance with the formal procedures and regulations because they are not able to take advantage of the knowledge and informal support of the other members (McBreen, 2002). Turbulence among the personnel thus means that the people affected lose time and energy invested in the social and task relationships, and again there is a new change in the group structure that requires personal adjustment and social efforts in order to build mutual trust (Butler et al., 1987).

External turbulence refers to people moving into and out of the unit, whereas internal turbulence relates to changes in the social structure within it (McGinniss & Sanders, 2003). Internal turbulence creates friction (Bartone & Kirkland, 1991; Holzwarth, 1988), although external turbulence may have even more damaging effects on the social structure and the group dynamics (McGinniss & Sanders, 2003). Constant change in personnel is particularly problematic in unit in which teamwork, close coordination, and trustworthy relationships are essential (ibid.). People are clearly not human spare parts that are replaceable without any impact on group dynamics and unit effectiveness (Cowdrey, 1995; Furukawa et al., 1987; Henderson, 1985; Siebold, 1999).

It is not only people's positions that change, and the organization itself may go through a transformation process with regard to its tasks, missions, standard operating procedures, goals, and management, for example. Moreover, the personnel policy may have a negative influence on unit cohesion if the reformation is tactless. Perhaps the most dramatic change in an organization happens when two or more units are merged. If the members continue to perceive themselves as being in separate units, organizational cohesion does not develop and the change does not produce positive results (Fischer et al., 2007).

There are, nevertheless, some circumstances in which individual replacements may be effective. A group with norms that go against organizational effectiveness, or cliques that cause disharmony in teamwork and taskwork may benefit from the relocation of a number of people (Fisher, Shaw, & Woodman, 1985). However, the relocation should be planned and conducted carefully, and due consideration given to the potential effects on

the personal and their professional development, the group's mission accomplishment, and group dynamics (McGinniss & Sanders, 2003).

In the military there are sometimes situational needs for replacements (e.g., in combat). The literature recommends making the replacements as small units, meaning that the entire personnel of an existing unit is withdrawn, reconstituted with new replacements, then trained together and after that deployed back to the mission (Savage & Gabriel, 1976; Shils & Janowitz, 1948). Similarly, transfers should be made in intact units (Lahdenperä & Harinen, 2000). The transfer of the whole unit maintains the social structure of the group and sustains the availability of social and task support (reducing the typical concerns of individual members in deployments) (Fisher et al., 1985; Janowitz, 1987; Yagil, 1995).

Despite the recommendations about unit transfers in the literature, the U.S. military used the *Individual Replacement System* (IR) and deployed and replaced people as individuals for a one-year tour in Vietnam, causing substantial annual turnover in troops (Griffith, 1989; Vaitkus & Griffith, 1990). As a consequence, the soldiers started to focus on reaching their individual Date Expected to Return Overseas (DEROS) (Moskos, 1988), which worked against the organizational effort to unite the members into an effective fighting unit (McGinniss & Sanders, 2003). In the end, the IR system destroyed the soldiers' combat motivation (Moskos, 1988) and the cohesiveness and effectiveness of the U.S. Army in the Vietnam War (Kviz, 1978; Savage & Gabriel, 1976; Siebold & Lindsay, 1994).

The shortcomings of the IR system created the need to decrease the frequency of rotations and to use group or unit replacement in order to enhance unit cohesion and effectiveness (Ingraham & Manning, 1981; Janowitz, 1987). The military developed different kinds of stabilization programs during which the combat units were formed, trained, and assigned intact in order to take advantage of the extended period of social interaction, social support, unit training, and performance (Griffith, 1986b; Smith & Hagman, 2004). Learning from the examples of other countries and the disastrous effects of the IR system, the U.S. Army introduced the *Unit Manning System* (UMS) in 1981 in order to stabilize its units (Smith & Hagman, 2004). The system was implemented in the form of a new personnel assignment and rotation program called Cohesion, Operational Readiness, and Training (COHORT) (Griffith, 1988; Vaitkus & Griffith, 1990), the objective of which was to strengthen unit cohesion and reinforce soldiers' psychological readiness for combat (Furukawa et al., 1987).

Under the Unit Manning System, the management of the personnel and the unit training matched the unit's mission to create better conditions for cohesion, teamwork, and unit performance (McGinniss & Sanders, 2003). However, in the case of officers the management and military training, promotion, and personnel advancement were not as effectively synchronized with the system. Therefore, peer cohesion developed effectively through stabilization, whereas the other components did not benefit (Cowdrey, 1995;

McGinniss & Sanders, 2003). Both the soldiers and their officers were stabilized in later programs (e.g., in Task Force Stabilization) in order to reduce the above-mentioned drawbacks (Smith & Hagman, 2004).

Research on cohesion has shown the efficiency of troop stabilization in achieving positive organizational results. Griffith (1989), for example, found that stabilized (unit rotation) units scored significantly higher than individual-rotation units on all cohesion measures. Individuals in stabilized units experienced friendship and horizontal bonding more positively than members of other units because they had more opportunities to engage in social relationships over an extended period of time (Vaitkus & Griffith, 1990). There was significantly stronger affective and instrumental peer cohesion and leader-subordinate cohesion among unit replacement (UR) soldiers than among the individual replacement (IR) soldiers (Griffith, 1989), although the differences decreased over time (Vaitkus & Griffith, 1990). Similarly, the stabilized units achieved higher scores on all cohesion and unit-climate measures at the beginning and in the earlier stages, although towards the end of the group membership there was also a decline in cohesiveness (Vaitkus, 1994).

According to these results, stabilization programs support primary-group cohesion (i.e., peer and leader cohesion) (Griffith, 1986a) but have fewer direct effects on secondary-group cohesion. Moreover, unit stabilization has stronger positive effects on social cohesion than on task cohesion (Smith & Hagman, 2004). Aside from its effects on cohesion, unit stabilization also produces better results in skill-qualification tests, fewer drop-outs from the group, improved retention in the units (Sinaiko et al., 1984), better perceived unit readiness (Shamir et al., 2000), and a willingness among the soldiers to go to war with the unit (Vaitkus, 1994).

Recent Israeli research offers an alternative perspective on stabilization and the relocation of personnel. Ben-Shalom, Lehrer, and Ben-Ari (2005) recommend the use of small, instant units, the composition of which is based on the specialties that fit the task. The original (larger) unit is split into components and deployed under a new command, apparently without major drawbacks in unit effectiveness. The soldiers in question became uniformly attached to the mission and the military purpose, and the required uniting force was the trust in others' competence that was formed in the first meetings (*'swift trust'*) (ibid., pp. 73, 75). One reason why instant groups are effective and cohesive despite short time together may be related to the low variation in relatively high institutional bonding and commitment among Israeli soldiers, and their strong task commitment (and 'can-do' spirit) (ibid.). The implication is that there may be other qualities such as other people's competence and commitment that may compensate for the lack of mutual experiences (Boer, 2001).

A small unit such as a platoon may be sufficiently large to constitute a reference group for its members, but small enough to be easily stabilized (including its leaders) (Holzwarth, 1988; Kosonen, 2003). The results of the

above-mentioned Israeli research also suggest that small teams may be cohesive and form a reference group with the characteristics of social and task support that are necessary for peer cohesion. Thus, combining small reference groups that have the same goal may result in strong cohesion in newly founded groupings as well. An alternative explanation for the cohesion of the instant groups may be that the leaders in the Israeli sample were highly professional and specifically selected for handling special operations and tough situations. The soldiers therefore easily trusted and bonded with their leader, and the instant group was capable of creating the necessary vertical cohesion in a shorter period of time than a standard military squad or platoon would need.

Leader stabilization supports (a) the leaders' personal growth and development, (b) the functioning of the group as a basis for social satisfaction and effective performance, and (c) the creation of a more predictable working and training environment in which people can learn from experience, apply the lessons learned, and trust the leaders and commanders (Ardison et al., 2001). On the other hand, it may lead to (a) boredom or burnout depending on the pace of the mission, (b) dissatisfaction in the case of a poor leader or an unsocial / unproductive team, (c) less experience in different positions (ibid.), or negative effects on the leader's career progression (Smith & Hagman, 2004).

When leaders are not stabilized but transferred as individuals to new units it takes time to integrate a new leader into the group, which may be reflected in its cohesion (Jacobs, 1990; Lahdenperä & Harinen, 2000). Moreover, if the leader is not able to gain the trust and respect of the subordinates there are more likely to be long-term consequences (Furukawa et al., 1987). In particular, leader turnover and turbulence are detrimental to vertical and organizational cohesion because they reduce the legitimacy of leadership (Wesbrook, 1980), damage the command and control system (Cowdrey, 1995), and disrupt unit norms and standards (Furukawa et al., 1987). Leader turbulence may downgrade group cohesion due to the new priorities, standards, and procedures (Phipps, 1982) that require too much adaptive energy for the group to learn and apply them effectively (Cowdrey, 1995). Changes in command are harmful to morale, discipline, and leader bonding in the group, particularly if the members are more experienced than their leaders (Savage & Gabriel, 1976).

Not only should the leader remain long enough in the unit, the command team should also be stabilized because spending more time together allows leaders and managers to improve their performance and management skills (Eisenstat & Cohen, 1990). Stabilization in a command team results in better decision-making, more supportive, motivating and inspiring leadership, and the better execution of plans and missions (Ardison et al., 2001). However, keeping leaders and staff members together long enough is difficult in practice due to transfers, retirement, promotion, or further training (ibid.). For example, the Unit Manning System (UMS) in the U.S. Army failed to

stabilize officers and only partially stabilized the NCOs, which was harmful to the vertical integration of the troops (Vaitkus & Griffith, 1990).

As a rule of thumb, instability among the personnel at headquarters weakens organizational cohesion and unit effectiveness, and therefore sustained group membership is better than individually fixed terms. The basic recommendation is thus to keep small-unit leaders together with their troops (Johns et al., 1984) in order to exploit the best practices, group dynamics, and group effectiveness that develop over time. The time required for stabilization varies depending on the type of unit, its mission, location and hierarchy, the proficiency of its members, and personnel turnover (McGinniss & Sanders, 2003).

A starting point for a *satisfying organizational experience* is that unit membership fulfills the needs of its members (Henderson, 1985; Manning, 1991; Schein, 1965; Shaw, 1981). A cohesive unit fosters affective social relationships and instrumental day-to-day behavior, thereby fulfilling its members' social and psychological expectations and giving them the opportunity for personal and group-level accomplishments (cf. Henderson, 1985). Meyer and Allen (1991) identified two personal needs that are served by organizational experience: feeling comfortable in the unit and feeling competent as a worker or leader. The first of these relates to emotional and social needs, and the latter to self-worth and self-efficacy, and the instrumental needs for secure work and payment. However, people vary depending on their needs and values, and therefore their responses and perceptions may not reflect the particular organizational experience. For example, a clear system of pay and promotion positively affects the commitment of workers who value personal gain, instrumental benefits and improvements in personal status, but may be irrelevant to someone who wishes to remain in a certain job or at a certain level, or values his or her social relationships at the workplace more.

In taking care of the biological, psychological, and survival needs of its members the unit upholds its cohesiveness (Shils &Janowitz, 1948), and intensifies the members' intrinsic motivation (Deci & Ryan, 2008; Ryan & Deci, 2000), attraction to the group (Shaw, 1981; Widmeyer et al., 1993) and commitment to the organization (Settoon, Bennett, & Liden, 1996). Unit support is vital in the military in order to sustain the group structure in extreme situations. For example, the unit may reduce concern for personal survival by providing adequate food, fostering good health, facilitating social relationships, and constructing coherent performance functions. As a result of such organizational support the unit becomes a source of self-esteem, identification, respect, a sense of power, and affection (Griffith, 1986b; Schein, 1965). On the other hand, inadequate organizational support (e.g., a lack of suitable equipment and resources for accomplishing the task) (Butler et al., 1987; Chodoff, 1983; Furukawa et al., 1987; Smith & Hagman, 2004) implies that the unit and its management are neglecting the mission and the

welfare of the members, which may weaken the members' commitment and cohesiveness.

The amount and quality of *equipment* and other types of organizational support may facilitate cohesion. According to Ingraham and Manning (1981), well-equipped and organizationally supported soldiers in a depot may lack primary- and secondary-group cohesion for other than equipment-related reasons, whereas combat soldiers in extreme conditions still pull together despite a lack of rest and resources. As another example, U.S. troops had excellent logistical support in terms of food, water, ammunition, and medical care in the Vietnam War but lacked cohesion, whereas Vietnamese units were short of resources but still sustained their cohesion and perseverance despite the shared deprivation. It seems that the morale of the U.S. soldiers was associated with their expectations of resupply, organizational support, and technical back-up (Gal & Manning, 1987; Henderson, 1985), thus their cohesion may have been more easily affected by inadequate logistical support. In fact, the above inconsistencies in findings could be related to the concept of relative deprivation, or the perceived inequity of deprivation (Sinaiko et al., 1984) and its potential moderating effect on cohesion. Fair, even-handed deprivation for the right reason may even strengthen group cohesion, whereas an unjustifiable lack of organizational support ruins the bonding (Settoon et al., 1996; Sinaiko et al., 1984). Therefore, fair treatment and decisions unite members with the organization more effectively than the mere provision of benefits (Meyer & Allen, 1997).

In conclusion, the satisfaction of personal and group-level needs is conducive to unit cohesion but does not define it. However, a lack of support from the unit and its management in terms of fulfilling needs and providing resources hinders bonding and commitment to the organization. In other words, when the conditions deteriorate for external reasons related to the enemy or the situation, for example, there are no harmful effects on primary- and secondary-group cohesion. People understand when there are real reasons for the lack of supplies, and bear with the situation. On the other hand, any suspicion that the unit or management is responsible for the suffering and the bad conditions will eventually destroy confidence in the organization.

A unit influences personal commitment and unit cohesion indirectly through establishing favorable organizational conditions (Ingraham & Manning, 1981), such as clear roles and responsibilities, job harmony and challenge, supportive leadership, and cooperation and friendliness among the members (i.e., the dimensions of the psychological climate; James & McIntyre, 1996). Specifically, the organization influences commitment through affecting members' perceptions of the social reality in their unit. Consequently, perceptions may be more crucial than the reality in terms of identifying organization (Meyer & Allen, 1997). For example, a sense of fairness in terms of rights and obligations is critical for contentedness with the unit climate (Johns et al., 1984) and organizational commitment (Meyer

& Allen, 1997). According to Smith and Hagman (2004), a supportive organizational environment requires clear rules and norms, a shared orientation to teamwork, caring and competent leaders, mutual help and support, and a lack of harassment. On the other hand, features that support unit cohesion and the functioning of the group include as clear, consistent rules and a positive social climate that co-exist with goal-orientation, acceptance of norms, and trustworthy relationships (Siebold, 1996). In sum, coherence in practices and policies combined with leadership and public relations facilitate the development of a healthy unit climate and organizational cohesion. Cohesion emerges to the extent to which the organization ensures shared experiences among unit members and promotes practices, personnel policies, and leadership that reflect fairness, equality, and organizational support.

Organizational experiences, and particularly perceptions of them, moderate the impact of the organization on unit cohesion. The more intense personal experiences people share, the stronger is their unit cohesion (Vaitkus & Griffith, 1990). Close intergroup contact and cooperation in pursuit of the shared goal through mutual planning, decision-making, and performance unite the subgroups (Sherif, 1970). The organization benefits from the careful planning of (informal) organizational experiences, including arranging social events (Henderson, 1985; Paxton & Moody, 2003) and sport events and competitions (Bartone & Adler, 1999), and designing and scheduling the daily activities so that the unit members live, work, and spend their free time together as a unit (Johns et al., 1984). The quality of the social conditions influences motivation, personal conduct, and performance (Deci, Koestner & Ryan, 1999; Deci & Ryan, 2008; Ryan & Deci, 2000). In terms of cohesion, Bartone and Adler (1999) reported a significant and positive relationship between organizational cohesion and satisfaction with training, policies, the flow of information, leaders' care and concern, equipment, as well as the unit's ability to accomplish the mission. On the other hand, they argue that a lack of meaningful work or experiences in the unit causes personal boredom and weakens the cohesiveness (Bartone & Adler, 1999).

Positive *working experiences* give a sense of group membership and support social identification with the unit. According to Griffith (2002), working (cooperatively and effectively together) is meaningful in itself and facilitates the well-being of workers, as well as functionally uniting them with the unit. Moreover, perceived organizational support regulates affective commitment among unit members (Settoon et al., 1996). If employees believe that their work and contributions are valuable, and that the organization will take care of them no matter what, the unit members are likely to have strong affective commitment to the organization (Meyer & Allen, 1997; Vandenberghe et al., 2004), and to be more willing to engage with the unit and its performance (Griffith, 2006).

Member of a unit adopt certain continually developing customs and a mindset that define its social climate or culture (Allport, 1924; Levine et al.,

1996). The *unit climate* develops in social processes (Lewin, 1948), and is influenced by organizational realities and policies (e.g., Futterman et al., 1991). Schneider and Reichers (1983), for example, identified different kinds of social climate that place more emphasis on the social orientation of the group or on its instrumental performance and achievements. Variability in perceptions of the unit climate indicates weak organizational cohesion, potentially resulting in harmful organizational outcomes. Correspondingly, Chan (1998) introduced the concept of *climate strength*, which is based on the variability in climate perceptions in the unit. Schneider, Salvaggio, and Subirats (2002) further demonstrated that the employee climate and customer satisfaction are only related under in conditions of climate strength (when there is a consensus about the climate). Similarly in the context of education, Griffith (2000) found that the stronger the consensus among students' and parental perceptions of the school environment, the more positive their opinions were. These results indicate that climate strength predicts outgroup members' satisfaction with the organization, thus implying that shared perceptions about group properties produce positive organizational outcomes.

The *command structure* sets the tone for the unit climate (Siebold & Kelly, 1987a; Yammarino, 1994) in terms of defining the standards for organizational functions, balancing the workload and resolving any social problems between groups (Grice & Katz, 2005a). It regulates interpersonal relationships between teams and groups and defines the organizational rules and norms that together influence the unit members' identification with the secondary group (Hartley, 1968; Siebold & Kelly, 1987a). Basically, the command climate is built on relationships between organizational representatives and unit members, such as between the commander and his or her subordinates. It has positive effects on unit cohesion when both parties have confidence in and appreciation for one another (Siebold & Kelly, 1987a).

Organizational and situational factors affect training expectations and motivation, and therefore the *learning climate* has an indirect effect on training success (Cannon-Bowers et al., 1995). In a positive learning climate, leaders value their subordinates' training and development (Siebold, 1999), and establish norms that support teamwork in the achievement of group goals. On the other hand, cooperative learning supports social relations and intergroup attitudes (Brown, 2000). Siebold and Lindsay (1994) point the strong correlation between group cohesion and rated performance in correlation positive learning climate, whereas when platoon leaders establish a weak/poor learning climate there is practically no relation between cohesion and performance. In other words, the learning climate moderates the effects of cohesion on group performance (Bass & Avolio, 2000).

The organizational culture is symbolic by nature (Dunivin, 1994). The basic aim in having *organizational symbols* and institutional ideologies is to unite members of the unit, and to strengthen their loyalty and dedication to

one another and to the organization (e.g., Bandura, 1986; Chodoff, 1983; Salo, 2004; Schein, 1990). The encrypted culture is deciphered and instilled into newcomers via communication and social experiences, and particularly through routines, rituals, symbols, accounts, and jargon (Levine et al., 1996). Members are integrated into the organization through its symbols. The primary group typically creates *informal symbols* (such as logos, hats, T-shirts, coffee mugs, pens, or nicknames for the group) to complement the official symbols (Knouse, 1998) and fashions its own daily rituals and habits (such as handshakes and salutes) that unite the members (Kosonen, 2003; Siebold, 1988). The value of symbolism is evident in the extent to which it commits individuals "to actions above and beyond the call of duty or their personal interests" (Siebold, 1988, pp. 4-5). Thus, distinctive insignia and organizational and institutional rituals allow soldiers to extend their commitment beyond the primary group (Griffith, 1988). Symbols, rituals, and traditions promote unit participation (Henderson, 1985), and at the same time represent the larger organization in daily service (Yammarino, 1994). In the end, the organization benefits from allowing the team and group to have their own symbolic characteristics, which facilitate the creation and reinforcement of social identification and group cohesion in the unit.

The symbolic culture of the organization provides management with tools for the creating collective identity of a unit (Shamir et al., 2000; Shamir et al., 1998), and for uniting the group in a common cause (Ashforth & Johnson, 2001). The ceremonies, parades, promotions, and awards serve to reinforce organizational cohesion (Johns et al., 1984; McBreen, 2002) and may also have an institutional significance that links the individuals with something larger and more meaningful than the unit. For example, regular parades and ceremonies may be organized in order to celebrate the existence and traditions of the institution, to reward exemplary employees with awards and promotion, and to motivate others to work harder for the common glory (Johns et al., 1984).

Unit cohesion benefits from the observance of traditions, the telling of ideological stories, and the implementation of values (McBreen, 2002). Rituals and symbols generate affective and moral bonds between the group members and their unit (Siebold, 1987). Given the nature of these bonds, traditional symbolic events do not have a direct effect on instrumental outcomes, such as production or performance, but are likely to influence the members' satisfaction and their intention to stay or reenlist, which are more affective elements. These affective bonds with the organization and the institution are valuable in times of disruption (e.g., during economic downturns or when under attack from an enemy). On such occasions the affective bonding with all possible levels of the nested units will sustain the individual's belief in the organization, and encourage the continuation of group membership.

Ideological and cultural symbols are only effective to the extent to which the primary group and significant others give a meaning to them (Butler et

al., 1987; Griffith, 1986b; Johns et al., 1984). Organizational and institutional ideals and values therefore need to be operationalized on the group level in order to become a natural part of daily experiences (Ingraham & Manning, 1981). The above-mentioned events raise awareness among individuals of the importance of their effort as part of the larger organization, the value of their own unit, and the vital need for teamwork and personal endeavor in order to fulfill the tasks and goals, to uphold the organizational achievements, to support and protect buddies, and to maintain their honor. The primary meaning of such symbolic aspects of the organizational culture is to sustain identification and to give a meaning to personal and unit sacrifices.

Insignia are symbols that show the person's membership in nested organizations. Soldiers are taught and required to wear their uniform with respect in their daily life, and in doing so they demonstrate pride in their organizational membership. On the other hand, insignia may emphasize the uniqueness of the unit compared to other organizations, indicating higher status and the importance of the group members. In addition, various flags, crests, traditions, events (Johns et al., 1984), mottos, mascots, and other signs help to foster a sense of uniqueness and a feeling of belonging (Butler et al., 1987; Siebold, 1987).

Distinguishing insignia in berets and uniforms reinforce unit boundaries and strengthen cohesion among those who wear and share the same kind of symbols (Henderson, 1985; Ingraham & Manning, 1981; McBreen, 2002). The color of the uniform tells a story about the nested units of which the person is a member. For example, (a) the color of the uniform designates the specific institution (e.g., the Army, Navy, Air Force, or the Marines), (b) the color of the beret and the insignia specify the branch, (c) the rank implies the person's peer-group level and leadership status, and (d) other insignia identify common experiences such as training background. All these insignia are like ties that unite the people concerned with the nested units. The uniform links them with the institution and the insignia connect them with the organization. In addition, insignia on uniforms help to categorize people by their roles and organizational affiliation (Sinaiko et al., 1984). They facilitate ingroup-outgroup comparison at a glance, and this helps people to locate each other in the institution and organization, and even in the specific group. As a basic rule, the more difficult or personally demanding it is to obtain insignia, the more personal value they have and the more they unite the person concerned with the organization.

Ceremonies and rituals effectively divert to higher-order identities by bringing symbolic organizational and institutional characteristics to a more salient aspect of primary-group life (Ashforth & Johnson, 2001). Every-day military uniforms are quite modest, for example, whereas those worn on ceremonial occasions and for traditional events carry various insignia and marks of organizational membership (including merits and awards). Wearing a special uniform emphasizes the importance of the ritual event, and the individual merits indicate the value of the person to the organization and/or

institution. Optimally, a uniform with certain insignia indicates both organizational and institutional membership and connects the wearer with all salient levels of his or her secondary group.

The symbolic aspects of the unit culture are secondary ways of reinforcing cultural mechanisms in the socialization process, whereas the primary socialization methods include formal, explicit, and direct education and training. The former are evident in organizational practices such as design of the physical learning environment, the organizational structure, the daily rituals and procedures, and the traditions, legends, and myths that together influence the explicit, primary forms of acculturation (Schein, 1990). An effective socialization program contains both primary and secondary elements, although it is not effective unless there is a common understanding and acceptance among the instructors and squad leaders of how these strategies are adopted in practice (Hayden, 2000).

Exchange theory emphasizes the reward-cost evaluation of group activities, membership, and group achievements (Homans, 1961; Thibaut & Kelley, 1959). Some people are more interested in maximizing rewards and minimizing costs, and for them awards and recognition have instrumental value and increase the likelihood of their joining the group (Griffith, 2009) and staying in the organization (Katz & Kahn, 1978). However, awards have affective value only to the extent to which they create and maintain higher-order identities and attach the person to the institution. In fact, primary-group relationships are rewarding in themselves, and therefore people continue their interpersonal associations with the salient group. However, secondary-group bonding is not guaranteed on the basis of good primary-group interpersonal relations, and therefore latent national, institutional, and organizational bonding is reinforced with *the system of awards, rewards, and reprimands*.

An organization's personnel-management practices in terms of rewards, public recognitions, time-off, leave policies, and punishments influence cohesion and commitment (Bartone & Kirkland, 1991). The point of reward structures is to emphasize social comparison among group members (Baratta & McManus, 1992) and to support the norms of the unit. An effective, cohesive unit links rewards and reprimands to the group's formal rules and informal norms (Henderson, 1985) in order to instill the normative structure into the members' value systems (Harinen, 1996). The continuum of incentives (concrete punishments–symbolic punishments–mild daily reprimands–mild daily recognition–symbolic awards–material awards) supports social-integration processes, which is why an organization is able to utilize the whole continuum in directing attitudes, intentions, and behavior. For example, daily positive recognition by leaders supports motivation and energizes performance (Deci et al., 1999). The best outcomes are achieved through incentives that foster normative and affective commitment (Griffith, 2009).

The *structure of the incentive system* (Hogg, 1992) should be clear and hierarchically pervasive, from the team leaders to top-level leaders or commanders. Each level of leadership should have its unique combination of tools for influencing social integration, compliance with norms, and a sense of meaningfulness with regard to unit membership that also supports the lower levels. For example, the top level of leadership and management could allocate the most recognizable awards and the most severe individual punishments.

A clear policy of promotion and assignment is evidence that the organization takes care of its members, and therefore well-planned and communicated promotions and awards increase their commitment (Meyer & Allen, 1997). Rewards and awards are also among the tools at the disposal of small-unit leaders for influencing their subordinates (Henderson, 1985). Thus, the incentive system may promote the functioning of authority (Siebold & Kelly, 1987a), and wisely allocated resources and decision-making give a sense of power to the lowest-level leaders.

Norms and values justify and stimulate the required group activities, whereas authority controls and directs organizational behavior (Katz & Kahn, 1978). Norms strengthen the effects of a reward or punishment in a cohesive group, thus the cohesion is the element that enforces the social and psychological pressure exerted by other members. Moreover, awards and serious individual reprimands direct shared mental models and member behavior, and people even reward those people who sanction group behavior (Horne, 2001). On the other hand, norms may not govern the sentiments of members of a non-cohesive group, and therefore people do not learn (as easily) from the positive or negative responses of leaders and other members. The individuals in a non-cohesive group are neither ashamed of their mediocre performance nor proud of their common achievements. Moreover, good performers do not enjoy evenhanded rewards because they would like them to be based on their own performance.

Material rewards have their place in the overall system of social integration, although medal-hunters are often labeled outsiders of the primary group (Manning, 1991) due to their interest in external, instrumental, organizational recognition and not the group membership or the social relationships. Despite the fact that the formal institution honors its heroes, the informal group may have an aversion to them because the very idea is in conflict with primary-group philosophy according to which all people are equal. Those with strong bonds and social identification with the group might therefore publicly downgrade their own value if they are honored (Little, 1964) in order to maintain good relationships with their buddies.

In the long run, people with more knowledge and skills receive more rewards, which increases their affective and instrumental bonding. However when others notice that they thereby lose the benefits of group membership, the rewards lose their affective importance. As a solution, the organization

might occasionally reward teams instead of individuals, and organize informal group competitions based on different skills than are normally recognized in group life, which everyone has the chance to win. Moreover, there could be rewards for an entire effective group, emphasizing the fact that a common group effort eventually benefits all (Bartone & Kirkland, 1991; Johns et al., 1984; Knouse, 1998, 18; Little, 1964).

The idea of rewarding group membership is to inspire to teamwork, cooperation, open communication, and a solid group performance. The value of rewards derives from the extent to which they motivate cooperation, social identification, pride in the unit, and distinctive group membership. Incentives are delivered in public because it is the moment of recognition of an individual or a group that has benefited others, or of an individual whose actions have exceeded role expectations, norms and task behavior, and have enhanced the prestige of the group (Bartone & Kirkland, 1991; Harinen, 1996; Henderson, 1985; Pipping, 2008). In order to be effective the incentive system should be planned at the lowest group level, and not just among leaders who may not understand the logic of normative forces in the group. For example, harsh and hasty punishments or unearned individual rewards only destroy confidence in the leadership and in the organization (Bartone & Kirkland, 1991) and do not have the intended positive effects on social integration.

In terms of education, sports, group exercises and in any organization that aims to improve its members' capabilities, *training* creates salient organizational experiences that have profound effects on unit cohesion (e.g., Bartone et al., 2002; Spink, 1998). Training involves learning specific behavioral patterns and establishes proper team- and task-related norms, thereby intensifying bonding and commitment to the group (e.g., Meyer & Allen, 1997). It is thus a valuable mechanism for supporting socialization and unit identification (Schein, 1965).

On the group level, the aim of *training* is to create small, cohesive, well-organized teams that share the organizational and institutional values, missions and goals, and are therefore easily attached and detached as organizational resources (Ben-Shalom et al., 2005). For example, effective basic military training helps the organization to socialize the soldiers to the unit (Heffner & Rentsch, 2001), teaches them the rudiments, roles, responsibilities, and requirements of being a soldier (Janowitz, 1971; Siebold, 1987), adjusts them to military regimentation and leadership (Harinen, 1996), builds up unit identification and commitment (Griffith, 1989), and cost-effectively produces tight-knit, operational units (Siebold & Lindsay, 1992). Undergoing the training links the participants with the collective tasks and encourages them to perform consistently in pursuit of specific organizational goals (Bartone et al., 2002; Butler et al., 1987).

Training supports teamwork and taskwork, and makes daily activities and organizational membership meaningful (Schein, 1965). Clear, attainable goals, tough and realistic training (Manning, 1991), and the immediate

recognition of achievements motivate people to try their best in the organization (Johns et al., 1984). Basically, every action and training procedure should have a purpose that is clearly communicated to the participants (cf. Holz, 1986). If this does not happen it gives the impression that the aim of the training and performance is merely to satisfy management (and not to meet the needs of the situation and/or the organization), to look good, and to carry on as usual (Siebold, 1999). In sum, a group will be more cohesive and will perform better if it has explicit and meaningful tasks that require well-organized teamwork and leadership (Furukawa et al., 1987).

Training provides a valuable framework for uniting group members (Kirkland, 1987), and training and living together produce shared experiences (e.g., Meyer & Allen, 1997; Salter, Fober, Pleban, & Valentine, 1995). As a result, the group members learn to trust one another and to work together (Holz, 1986). Social learning, continuous group participation, and training that requires cooperation, mutual help and support have a unifying function (Janowitz, 1971; Manning, 1991; Salter et al., 1995). Moreover, training leaders and their subordinates together and sharing the achievements and the discomfort help to blur the different hierarchical boundaries and thus to produce a cohesive unit (Phipps, 1982).

Training experiences also affect commitment (Meyer & Allen, 1997). Mathieu (1991), for example, showed that certain training characteristics predicted satisfaction, which in turn increased commitment. Similarly, Tannenbaum, Mathieu, Salas, and Cannon-Bowers (1991) reported that organizational commitment was affected by met expectations in training, satisfaction with training experiences, and training performance. On the other hand, committed people are more likely to view their training as beneficial (Cannon-Bowers et al., 1995), or as evidence that the organization values its members (Meyer & Allen, 1997). Thus, committed people are generally more willing to undergo training (Cannon-Bowers et al., 1995).

Challenging training involves situations in which the trainees need to excel and rely on united effort for effective performance and is thus valuable tool in terms of uniting group members and strengthening their cohesion (Bartone et al., 2002). It is suggested in the literature that the use of progressively demanding tasks that are realistic, challenging, relatively stressful, and require group effort (Bartone & Kirkland, 1991) will stimulate learning (McBreen, 2002) and problem solving in teams (Knouse, 1998; Salter et al., 1995). Moreover, the trainees will acquire the necessary methods and techniques to overcome difficulties together (Bartone & Kirkland, 1991; Todd, 1992), experience an intensified sense of mutual respect, affection, and appreciation in the group (Henderson, 1985), and thus contribute to unit cohesion (Bartone et al., 2002; Todd, 1992). Overall, the recommendation is to introduce gradually and systematically more demanding tasks and challenges that the group struggles to carry out, but succeeds in the end (Kirkland, 1987). In other words, the tasks should be located within the zone of proximal development, meaning that the group members solve the

problems and put all possible effort into successfully accomplishing the tasks (Popper & Mayseless, 2003).

Sharing goals and achievements supports cohesion (Bartone & Kirkland, 1991; Siebold, 1987), collective efficacy, mutual confidence, and trust in the group (McGinniss & Sanders, 2003). Planners of education programs should take into account the possible positive effects of social learning and problem solving in teams in terms of acquired competence in task performance and, at the same time, an increase in confidence, mutual respect, and commitment to the group (Bartone & Kirkland, 1991; Salter et al., 1995).

Cross-training provides the basic knowledge about the other group members' tasks, roles, and duties (Grice & Katz, 2005a), and helps the trainee to locate his or her own duty in a larger framework (Urban et al., 1995). Among group members it reduces uncertainty about roles (ibid.), and produces a back-up system in case of employee turnover. For example, there may be a chain-of-command drill, meaning that the next highest ranking person takes charge of his or her superior (Alexander, 1994). A clear command structure also is also advantageous when the leader is not available, the group does not lose the initiative, the members are less uncertain about their roles in unexpected situations, and the group performs appropriately despite the difficulties (Karis, 1988). Moreover, a chain-of-command drill is a good way to get the group members to pull together and understand their work as a concrete part of the larger entity. Broadening the members' perspective encourages identification and motivation, and supports a sense of meaning and ownership (Schein, 1965).

Role clarity facilitates the formation of norms and situation-congruent expectations (Baratta & McManus, 1992), and positive associates with cohesion (Schriesheim, 1980). On the other hand, role ambiguity (i.e., uncertainty about responsibilities and expected performance) weakens commitment (Mathieu & Zajac, 1990). Leadership and training can help to clarify the roles of group members. Training, for example, can expose them to situations in which they need to rely on others' help and support, and familiarize them with the different roles and required skills in the group and the unit, thereby enhancing unit cohesion (Kirkland, 1987).

Research results have shown a positive relationship between training and cohesion (McBreen, 2002; Siebold, 1990), which may be due to the fact that the quality of learning is better in conditions in which the people concerned support and like one another (Lott & Lott, 1965). In particular, unit cohesion benefits when there are (1) enough qualified personnel, (2) challenging tasks that develop competence and self-efficacy, test the participants in stressful situations, and provide a common purpose, and (3) motivating leaders who emphasize working together in order to attain common goals (Skaggs, 1997). Not only does training have cohesion-building potential, cohesion may also support training in that a cohesive group is motivated to pull together and learn new skills for the benefit of the group (McBreen, 2002). Cohesion is thus a valuable asset that intensifies the effects of training experiences

(Siebold, 1993). Committed, motivated people in a cohesive group use their off-duty time for learning more, quizzing one another in order to test and reinforce knowledge and skills, and value one another based on their relative impact on the group's welfare (Kirkland, 1987).

Shared goals and congruence between personal, group and organizational needs, expectations, and requirements are achieved through giving ownership of the mission to the lowest hierarchical level. A sense of *ownership* positively affects commitment and adaptation to organizational values and demands (Bartone & Kirkland, 1991). Delegating power to lower-level leaders strengthens vertical cohesion among leaders on the various hierarchical levels (Kirkland, 1987). On the one hand, decentralized authority (Johns et al., 1984) supports the position of lower-level leaders and facilitates vertical cohesion in groups, and on the other, leaders can involve the group members in the decision-making in order to strengthen their commitment to the unit and its goals (Meyer & Allen, 1997; Yammarino, 1994). People go the 'extra mile' and contribute more than required when they work for something that is personally important to them. Thus shared planning, goal setting and decision-making, and joint evaluation encourage innovation, motivation and active performance, strengthen commitment to the shared task (Kirkland, 1987; Zazanis et al., 2001), and reinforce leader-subordinate bonding in the group (Furukawa et al., 1987).

Cohesion is a stress-resistance resource for the unit. It shields against the onset of stress, helps to sustain structured relationships despite the hardships (Griffith, 1987, 2002; Griffith & Vaitkus, 1999), and enables the unit to function in a stressful situation (Yagil, 1995). In the military, it buffers against the negative effects of the harsh conditions of combat (Gal et al., 1987), keeps the group intact (Griffith & Vaitkus, 1999), enhances its resilience (Brawley et al., 1988; Griffith, 1988; Shils & Janowitz, 1948), and keeps it on track despite the difficult situation (Griffith & Vaitkus, 1999). Members of a cohesive group have a strong belief in their ability to withstand (external) hardships and disruptive events (Brawley et al., 1988; Widmeyer et al., 1993). Moreover, cohesive units have fewer combat-stress casualties (Griffith, 1986b; Solomon, Mikulincer, & Hobfoll, 1986) and a higher potential for recovery than units with lower levels of cohesion (Furukawa et al., 1987). It seems that cohesion strengthens the unit in terms of maintaining self-discipline and a fighting spirit in combat (Karis, 1988; Siebold, 1993).

Stress may have a positive, negative, or curvilinear association with cohesion depending on the situation (Griffith & Vaitkus, 1999). Moderate levels of stress may be beneficial if the individual concerned experiences the stressful situation as meaningful and interesting, and as a chance for personal growth (Bartone, 2000). Prolonged stress has a negative effect, and increases the likelihood that the group will disintegrate (Griffith & Vaitkus, 1999). Moreover, the type of stress influences its effects on group processes. For example, external stress or threats may even promote unit cohesion,

whereas internal social conflicts or confusion in task performance may be detrimental (ibid.). Interestingly, the correlation between cohesion and effectiveness increases at higher levels of stress (Yagil, 1995), suggesting a moderating effect of cohesion on effectiveness.

The value of cohesion is self-evident when the situation is difficult, threatening or uncertain and the existence of the group is endangered (Butler et al., 1987). *Competition* increases stress levels in the group, but at the same time helps it to understand between us and them (Manning, 1991), thereby positively influencing the social-identification process and unit cohesion (Johns et al., 1984; Salter et al., 1995). Depending on the situation, competition may promote interpersonal relationships (Cartwright, 1968) or distort them. In short, competition between groups and units may support cohesion (Alexander, 1994), help to establish group values, and strengthen group identification (Boer, 2001).

Group members are more likely to share their feelings and experiences in highly emotional circumstances (Mouthaan, Euwema, & Weerts, 2005). *An enemy threat* endangers the group's and its members' survival or status, and is an emotionally unpleasant, stressful situation that brings the unit together (Cartwright, 1968) in shared actions in order to reduce the fear (Johns et al., 1984; Siebold, 1987; Wesbrook, 1980). Unfortunately, the risk of groupthink also increases as a function of threat (Turner et al., 1992). In general, the literature suggests that many positive group properties are reinforced when people face an external threat or an enemy, including common goals (Griffith, 2005), mutual interaction and cooperation (Karis, 1988), and cohesion (Butler et al., 1987; Janowitz & Little, 1974; Lott & Lott, 1965; Sinaiko et al., 1984). In the military context, an 'evil' enemy effectively unites the unit and encourages its members to stick together (Shils & Janowitz, 1948).

The value of a cohesive group is most evident in *extreme situations*. Inherent in combat situations are all the challenges that a group may ever encounter: high intensity of action in rapidly changing chaotic and lethal circumstances, continuous ingroup and intergroup cooperation and coordination, possible separation from the unit, and isolation, fatigue, breakdown, or even death among its members (Furukawa et al., 1987; McGinniss & Sanders, 2003). Moreover, the very nature of the battlefield with its isolating, disruptive forces threatens the stability of the group. Examples of such forces include:

- Powerful, accurate weapon systems that are capable of a producing number of casualties and massive destruction (Griffith, 1987; Siebold & Lindsay, 1994);
- Continuous but unpredictable threat due to unstable or unexpected battle lines (Griffith, 1987);
- The need for both synchronized and decentralized operations (Siebold, 1993) that require optimal use of the group members' expertise and a cooperative focus on the same targets (Griffith, 1986a; McBreen, 2002);

- Impersonal surveillance and management from way beyond the field.

There is no escape from the battlefield, and therefore personal survival depends on immediate friends and leaders, the unity of their effort, and the survival of the group (e.g., Harinen, 1996). Endurance is a product of:

- Trust, loyalty, and respect on all levels of the unit;
- Unshaken confidence in receiving help from others;
- Automated taskwork and possible task rotation;
- Organization's support in all circumstances (Furukawa et al., 1987).

Group cohesion in the form of structured, trustworthy social relationships brings order to the chaos in extreme situations (Karis, 1988). This may be one of the factors that determine which of the equally highly trained and well-equipped opponents will win the battle and survive (Griffith, 1986a; Siebold & Lindsay, 1999). All in all, cohesion is fundamental for sustaining the effectiveness of the group in conditions of stress. It makes it possible for individuals to bear an enormous amount of stress, more than they could ever withstand alone (Griffith, 1986b, 1987, 1988; Shils, 1950; Stouffer et al., 1949). Similarly on the group level, unit cohesion increases the ability to cope with stress (Siebold & Kelly, 1987b).

4 THE INFLUENCE OF THE COHESION COMPONENTS ON THE KEY CRITERIA

The value of unit cohesion is evident in its many desirable outcomes:

- It supports well-being (Bliese & Halverson, 1996; Griffith, 2002; Oliver et al., 1999) even under extensive stress (Bartone et al., 2002);
- It facilitates satisfaction (Dobbins & Zaccaro, 1986; Oliver et al., 1999; Shaw, 1981; Tekleab et al., 2009), and supports commitment to tasks and goals (Griffith, 1986b);
- It facilitates group processes (Griffith, 2002) through increased (more frequent, open, and positive) interaction and communication (Cartwright, 1968; Griffith 1986b; Zaccaro et al., 1995; Zaccaro & Lowe, 1988), cooperation and coordination (Gully et al., 1995; Widmeyer & Martens, 1978; Zaccaro et al., 1995), social support (concern and care) (Griffith, 1986b), conformity to group standards (Back, 1951; Cartwright, 1968; Hogg, 1992), consensus (Tziner, 1982), positive evaluation of the group (Hogg, 1992) and(fair and equitable) leadership (Griffith, 1986b);
- It enhances the readiness for combat (Furukawa et al., 1987; Griffith, 2006), productivity (Mikalachki, 1969), and group performance (Mullen & Copper, 1994).

Members of a cohesive group are more likely to retain their membership (Oliver et al., 1999), are more influenced by the other members, participate more actively, and are more loyal to the group (Cartwright, 1968). They also engage more in positive social interaction (due to friendliness and cooperativeness) (Shaw, 1981), communicate and coordinate their resources more effectively, do not need as much time and effort to maintain the group structure and functioning (Widmeyer & Martens, 1978), reach their goals (Shaw, 1981; Widmeyer & Martens, 1978), and exhibit less deviant behavior (Kalanen & Kekäläinen, 2004; McBreen, 2002; McClure & Broughton, 1998).

On the organizational level, cohesion affects the individual's attitudes and orientation towards membership in the larger organization. For example, problems in bonding with the organization and the institution may result in low job satisfaction, a lack of performance motivation, disintegration, turnover intentions, social loafing, and discipline problems (e.g., Gal et al., 1987), despite the fact that the group members might have strong peer/horizontal cohesion in the primary group (cf. Little, 1964). On the other hand, unit cohesion induces identification with the unit (Griffith, 2002), reenlistment intentions (Griffith, 1989; Siebold, 1996), career intentions, retention and low turnover (Griffith, 2002), perceptions of combat readiness (Griffith, 1986a, 2002), adjustment to military service (Bartone & Adler, 1999), morale (Gal & Manning, 1987), and esprit de corps (Furukawa et al.,

1987), all of which result from identifying with and bonding with the organizational membership.

The positive effects of unit cohesion may be dependent on the process through which it directs and limits individual attitudes and behavior (Brewer & Harasty, 1996) and creates a sense of commonality among members who share the experiences. The more tightly integrated the members of a group are, in terms of cohesion, the more difficult is it to pull them apart, the more capable they are of joint action, and the more they invest in one another in terms of respect, time, and resources (cf. Shils & Janowitz, 1948; Siebold, 2006). With regard to the criteria, the focus in this study is on how the components of primary- and secondary-group cohesion relate to behavioral and attitudinal outcomes. This chapter therefore summarizes the results of previous research on the primary effects of unit cohesion on these outcomes.

4.1 ATTITUDINAL CONTENT AND VARIATION

Unit cohesion has an impact on the content of and variation in experiences, attitudes, and behavior among group members. Basically, it empowers the group to disseminate and change the opinions, attitudes, and modes of conduct of its members (Festinger et al., 1950; Zaccaro, 1981). More specifically, leader-subordinate cohesion has a unique, positive impact on members' attitudes towards their work, the primary group, and the secondary group (in the Army, for example) (Mael & Alderks, 1993).

Research findings suggest that factors indicating personal *well-being* (Oliver et al., 1999) and *adjustment to the organization* are related to cohesion, and to its social and affective dimensions in particular. Cohesion develops a sense of acceptance, trust, confidence, security, and personal worth (Cartwright, 1968), thereby reducing anxiety and enhancing coping ability. It also promotes personal adjustment to the organization (Bartone & Adler, 1999) by increasing mutual social support among group members (Weiner, 1990; Zaccaro, 1991). In the military context, task support for soldiers and emotional support from leaders facilitate well-being (Griffith, 2002), which may explain its positive association with both peer and leader-subordinate cohesion (Bliese & Halverson, 1998). There is also research evidence indicating that cohesion has a positive effect on group members' medical and physical fitness (Siebold & Kelly, 1988c), reduces the likelihood of negative mood responses such as tension, depression, anger, fatigue, and confusion (Terry & Carron, 2000), works against job burnout (Lee & Ashforth, 1996), and even helps people to quit smoking (Etringer, Gregory, & Lando, 1984).

The premise is that the different elements of cohesion have beneficial effects on satisfaction (Siebold, 1990; Widmeyer et al., 1993), which was supported in that revealed a strong, positive correlation between cohesion

and *job satisfaction* (Oliver et al., 1999). Satisfaction may be affected by factors related to leadership, management, and organizational membership (Heffner & Gade, 2003), and task cohesion in particular has been associated with job satisfaction among employees (Ahronson & Cameron, 2007; Carless & De Paola, 2000; Spink, Nickel, Wilson, & Odnokon, 2005). There is also evidence of a strong correlation between job satisfaction and organizational commitment (e.g., Heffner & Gade, 2003) in that job satisfaction predicts desired job-related outcomes such as low absenteeism and enhanced performance (Britt, 1999). Moreover, according to the structural model, job satisfaction influences commitment (rather than vice versa) (Mathieu, 1991).

Career intentions are affected by peer cohesion (Siebold, 1996), leader-subordinate cohesion (Mael & Alderks, 1993; McClure & Broughton, 2000), and affective commitment (Tremble et al., 2003), indicating that the quality of the unit dynamics and personal bonds positively influence career intentions (Siebold, 1996). On a more general level, career intentions relate to long-term institutional membership and perceptions of there being something important to be achieved through its continuation. The basic implication is that personal attitudes and intentions in an organization are attributable to factors that are salient to secondary-group membership (such as organizational and institutional bonding). Moreover, career intentions may derive from even broader sentiments of commitment, such as nationalism (Griffith, 2005, 2009). On the other hand, patriotism relates to joining the military in order to gain experience and to serve one's country (Griffith, 2005). These results suggest that institutional and societal bonding have bearing on the criteria, particularly when the institutional characteristics are relevant to unit membership.

4.2 BEHAVIORAL CONTENT AND VARIATION

The particular importance of cohesion derives from the fact that a cohesive group has a wider and more profound realm of influence, which is called "the power field of the group" (Festinger et al., 1950, p. 166) or the "internal power of the group" (Schachter, 1951, p. 191). The definition of the power is based on the extent of the influence of the group on its members. The substantial benefit of having a cohesive group is that the leader can influence it as a single entity, whereas in "non-cohesive groups, one must relate to the members individually" (Mikalachki, 1969, pp. 81-82). On the other hand, it is difficult to transform an individual's behavior in a cohesive group, whereas it is easier to influence the behavior of the entire group (Etzioni, 1975).

Peer cohesion regulates and unifies behavior (Griffith & Vaitkus, 1999) and reduces variation (Griffith, 1986b; Sterling & Williams, 1982). As a result of unit cohesion, a collection of people pull together, coordinate their efforts, and behave as a united, integrated body driven by shared, common goals and

loyalty to the unit as a whole (Mael, 1989, Mikalachki, 1969). Similarly, affective commitment to the organization positively influences behavior (Ellemers 2001; Meyer & Allen, 1991) in terms of doing extra work, for example.

In terms of behavioral outcomes, a cohesive group has better *attendance* compared to other groups (Griffith, 1986a; Mikalachki, 1969). Withdrawal and absenteeism are less common and the members are motivated to report for duty as a result of stronger identification with the group (Mikalachki, 1969), affective commitment to the organization (Mathieu & Zajac, 1990; Meyer & Allen, 1997), and high-quality leadership (Deluga, 1995). In sports, for example, cohesive groups are superior in terms of adherence (less absenteeism, fewer drop-outs, and less lateness) (Carron, Widmeyer, & Brawley, 1988; Fraser & Spink, 2002; Spink, 1990), and their members have stronger intentions to return to the group after the season (Spink, 1998). In the military, too, commitment (Griffith, 1986a) and group cohesion (Holz, 1986; Motowidlo & Borman, 1978; Oliver et al., 1999) reduce sick calls, absences without leave (AWOL), and punishable deviant behavior, and as a result cohesive units have fewer problems in terms of crime, misconduct, absence, and withdrawal.

Process loss happens when "individuals withhold their resources toward activities which do not promote and, in fact, may inhibit task achievement" (Zaccaro & Lowe, 1988, p. 548). Peer cohesion may even exacerbate such process loss because group members devote more energy to interpersonal relationships and interaction as a maintenance strategy, which may detract from their task completion (ibid.). Todd (1992) refers to this effect of peer cohesion on process loss as the paradox of cohesion: bonds that hold peers together hold back the maximum productivity of the group. In cases in which the group goals run contrary to the organizational objectives, the group may even accept the process loss, which is then further enforced by peer and/or social cohesion in the form of mutiny or work slowdown (Carron, 1982). In the worst case, process loss involves deliberate counterproductive behaviors such as absenteeism, deviance, and social loafing (McIntyre et al., 2003).

Social loafing denotes "a decrease in individual effort due to the social presence of other persons" (Latané, Williams, & Harkins, 1979, p. 823). An increase in the number of group members typically results in a decrease in individual identifiability outside the group (Hogg, 1992; McIntyre et al., 2003), which further reduces the number of external group forces on individual productivity (Zaccaro, 1981). Larger groups are thus more prone to social loafing (Guastello & Guastello, 1998). In addition, there may be "free riders" (Buchanan, 1968, p. 87) who exploit the morale, task cohesion, and effort of other group members and perform the minimum, or less than they could. For these people, work or performance "with the least amount of effort possible" is more important than the consequences (Zaccaro, 1981, pp. 89-90). The free-rider effect, or 'dispensability', may be attributable to the perception of one's effort as less noticeable to other members, which justifies

lower personal input (McIntyre et al., 2003). Other possible reasons for social loafing include being a novice in a group of more competent people who constantly carry out the tasks, and reducing one's own effort due to other free riders (referring to the equity theory) (McIntyre et al., 2003).

Hogg (1992) asserts that social identification reduces social loafing despite changes in group size because the members identify with and are directed by the normative behaviors of the group, and are less influenced by its actual size. However, the extent of social loafing depends only indirectly on social identification, and it is moderated by norms. Thus, if the group norms do not enforce group performance, then identification does not have positive effects on productivity.

Informal group processes that create reference-group norms may sometimes favor social loafing among the members. In that case, reduced work output is socially acceptable (Prapavessis & Carron, 1997a), or even beneficial in order to avoid intragroup conflicts (Widmeyer et al., 1993). The tendency to do only the minimum may be prevalent particularly in total institutions such as prisons, hospitals, and military organizations.

Group cohesion moderates social loafing (Høigaard et al., 2006; Karau & Hart, 1998; Karau & Williams, 1997). The highest incidences are more likely in groups with high social cohesion, low task cohesion, and low performance-related norms (Høigaard et al., 2006). In these cases, social loafing does not violate group norms, and social cohesion inhibits member criticism of the practice (Rovio et al., 2009). However its eventual consequences include lower levels of cohesion and personal attachment to the group (Whiteoak, 2007).

Social loafing may decrease task effort particularly when there is low attraction to the task (i.e., low task cohesion) (e.g., Kalanen & Kekäläinen, 2004), whereas strong task cohesion inhibits it (Zaccaro, 1981). The positive effects of task cohesion are attributable to the fact that it generates group norms that direct behavior towards task performance and exert pressure to avoid social loafing (Høigaard et al., 2006; Zaccaro, 1981). One reason why a cohesive group may be less prone to it concerns the distinction between individualism and collectivism. Specifically, it is suggested that a cohesive group has a more collective approach to welfare and harmony among members and that this reduces social loafing, which essentially derives from the pursuit of individual gain in a specific situation (McIntyre et al., 2003).

There are two main classes of *turnover* predictors: individual factors and situational/organizational variables (Salo, 2008a). Group integration is one of the most influential situational factors, and therefore cohesion relates positively to retention (Oliver et al., 1999). Correspondingly, staying in the group is induced by cohesion (Griffith, 1986b), indicating an attachment to the membership, whereas turnover implies insufficient social integration into the reference group and the possible social isolation of the individual member (Chodoff, 1983). In the military, keeping the unit intact increases the tendency of soldiers to remain in the service (Vaitkus & Griffith, 1990)

because the group members have more opportunities to create communalities (such as shared attitudes and experiences), thereby strengthening their cohesion. Similarly in sports, group cohesion has an inverse relation to drop-out behavior (Prapavessis & Carron, 1997a), suggesting that members who are not integrated and involved in group tasks or social functions are inclined to drop out more easily (Spink & Carron, 1994). On the other hand, Fraser and Spink (2002) did not find any relation between cohesion and drop-out behavior in an exercise setting. Both primary-group cohesion and organizational cohesion have been associated with a lack of turnover. McClure and Broughton (2000), for example, noted that base cohesion correlated positively with retention.

Leadership behavior and the quality of the relationships between group leaders and members indirectly support retention through their effect on cohesion (e.g., Spink, 1998). Emotional support from leaders (as well as company-level task and emotional support) has a negative effect on turnover (Griffith, 2002). Moreover, effective mentoring decreases the likelihood of turnover by more than 30 percent, although commitment holds constant (Payne & Huffman, 2005). As a consequence, leader-subordinate bonding indirectly decreases turnover intentions by supporting affective organizational commitment (Vandenberghe et al., 2004).

Organizational commitment (and particularly affective commitment) consistently predicts turnover and retention intentions (Allen, 2003; Gade et al., 2003; Payne & Huffman, 2005; Tremble et al., 2003), and actual *turnover* (Mathieu & Zajac, 1990). The association between affective commitment and retention is attributable to the fact that unit members are attracted to the unit, and even like the organization, and therefore their membership is emotionally rewarding (Allen, 2003). Commitment to the unit explains turnover, but commitment to the institution or to national values may also influence whether members of an institution stay or drop out. For example, it is suggested that nationalism increases the likelihood of remaining in the organization (in the reserve forces) (Griffith, 2005). In brief, organizational commitment has an indirect effect on turnover through turnover intentions (Vandenberghe et al., 2004), which are consistently reported to be the strongest predictor of turnover behavior.

Group cohesion (Chen et al., 2009; Kidwell et al., 1997) and the quality of leader-member exchange (referring to leader bonding) (Settoon et al., 1996) affect the amount of *organizational citizenship behavior* (OCB) in the unit. OCB refers to helpful behavior that is beneficial to but not formally required by the organization (Kidwell et al., 1997). Members of a cohesive group are more likely to exhibit such behavior (Ng & Van Dyne, 2005), to show loyalty (Spink, Wilson, & Odnokon, 2010) and courtesy to the other members (Kidwell et al., 1997), assume more control over and responsibility for group performance (Michalisin, Karau, & Tangpong, 2004), work hard to achieve mutually satisfying outcomes (Karau & Williams, 1997), and make personal sacrifices for the benefit of others (Prapavessis & Carron, 1997b). In brief,

members of a cohesive unit are more willing to exert more effort on behalf of their peers and to facilitate the functioning of the group.

Cohesion lubricates *group processes*. Members of a cohesive group perceive collective unit properties (e.g., the climate, goals, or management) in a more positive light, which supports their involvement in group processes. The implication is that cohesion increases interaction and communication (Widmeyer et al., 1993). This supports group effectiveness (Urban et al., 1995) and allows the members to develop shared attitudes and to learn more about each other, which in turn promotes group integration (Carron & Spink, 1995). An increased workflow further strengthens the association between cohesion and performance (Beal et al., 2003). Moreover, cohesion reduces communication blocks (Etzioni, 1975) and coordination problems in practice and performance (Williams & Widmeyer, 1991). When there is a heavy workload, members of a high-performance group ask fewer questions and provide fewer answers (with regard to reducing process loss), but they give the necessary information without question because they are able to anticipate other people's needs (Urban et al., 1995).

Per interaction in a group covers interpersonal relationships, whereas leaders are more interested in task motivation and task performance (Zazanis et al., 2001). Thus, the significance of group processes differs among the members. Correspondingly, various components uniquely influence these processes (Carless & De Paola, 2000). Peer cohesion, for example, leads to task commitment and interaction among group members (Zaccaro & Lowe, 1988), whereas task cohesion facilitates planning, decision-making, coordination, and actual performance due to the more effective exchange of relevant information and ideas (Zaccaro et al., 1995).

One of the main premises in the literature is that cohesion predicts *individual performance* (Gully et al., 1995). Cohesion elevates individual motivational factors (Karau & Hart, 1998), thereby affecting direction, persistence, and behavioral and performance intensity (Gully et al., 1995). Moreover, it inhibits motivation loss in exercises and performance (William & Widmeyer, 1991). All this is attributable to the fact that a cohesive group energizes the members to exert themselves more in pursuit of group goals (Ellemers, 2001). In the military context, for example, group cohesion has been identified as the strongest predictor of performance, surpassing loyalty to the unit and a personal motivation to serve (Milgram, Orenstein, & Zafrir, 1989). Organizational bonding is also conducive to personal performance. For example, identification with the unit explains perceived combat readiness (Shamir et al., 2000), and affective organizational commitment facilitates individual performance (Gade et al., 2003; Riketta, 2002). The conclusion is that both peer and organizational bonding support individual performance in the unit. Given that affective commitment to leaders (i.e., leader bonding) has been found to significantly relate to job performance (Vandenberghe et al., 2004), and that ideologically committed soldiers are most likely to be effective (Wesbrook, 1980), it could be concluded that all

cohesion components improve individual performance, depending on the group norms and other circumstances.

There has been a debate among theorists and researches about whether cohesion predicts performance, or vice versa (Casey-Campbell & Martens, 2009; Keller, 1986; Oliver, 1988; Widmeyer et al., 1993; Yagil, 1995; Zaccaro, 1991). For example, Mullen and Copper (1994, p. 222) showed in their meta-analysis that although cohesion did explain performance (r = .25), performance was an even stronger predictor of cohesiveness (r = .50). Fullagar and Egleston (2008) obtained similar results through hieararchical linear modeling: group performance is predictive of cohesion. Oliver (1988) suggests that these factors have a cyclical relationship: cohesion contributes to effective group performance, and success in performance further strengthens cohesion. According to Yagil (1995), unit members' morale and motivation contribute to successful performance that results in further elevated morale and motivation. Similarly, Malone (1983) and Manning (1991) argue that mission accomplishments support high morale (as well as vice versa). These findings imply that there may be a cyclical relationship, in particular between task cohesion and personal performance.

On the group level, successful performance may support the status of the group (Wesbrook, 1980), and thus the emphasis on task functions (Hogg & Hains, 2001) that futher enhance group performance. Similarly, success fosters the functional integration of peer relationships (Wesbrook, 1980), satisfaction with membership (e.g., Mullen & Copper, 1994), pride in the team (Goodacre, 1953), and commitment to the organization (Meyer & Allen, 1991), all of which influence primary-group cohesion.

Performance and success may be rewarding in terms of motivating its members to stay in an effective group. Exchange theory posits that people assess prospective outcomes of the group membership, and that expected success motivates commitment (Cartwright, 1968; Grice & Katz, 2005a, 2005b). Basically, (some) people want to be part of a winning team (Knouse, 1998; Oliver, 1988; Widmeyer et al., 1993) and to avoid unsuccessful outcomes. Sharing goals and achievements (Bartone & Kirkland, 1991) and believing in the unit's ability to accomplish the mission (Bartone & Adler, 1999) strengthen peer cohesion, whereas failures in performance may weaken cohesion and/or shift the focus on task cohesion to an emphasis on social cohesion in group processes (Hogg, 1992).

The main argument supporting the emphasis on cohesion concerns its strong association with *group performance*. Indeed, the two main elements of primary-group cohesion (i.e., peer and leader-subordinate cohesion) are consistently found to promote group performance (Mael & Alderks, 1993) due to the members' increased identification with the task and goals (Brown, 2000). Moreover, group cohesion predicts perceived collective efficacy (Michalisin et al., 2004; Paskevich, Brawley, Dorsch, & Widmeyer, 1999), combat readiness (Griffith, 1986a), and JRTC performance (Bass & Avolio, 2000; Siebold, 1990; Siebold & Kelly, 1988c). The positive relation between

cohesion and performance is partly attributable to the fact that members of a cohesive group disseminate information and execute decisions more effectively (Siebold, 1988), and are better able to adapt to changing situations and to find productive solutions more quickly (Siebold & Lindsay, 1991). As a consequence, an increase in group cohesion entails higher levels of performance (Oliver, 1988).

Cohesion among peers has even stronger effects on group performance under effective leadership and in a positive command climate (Siebold, 1996; Siebold & Kelly, 1988c; Tziner & Vardi, 1982), given that strong unit leadership intensifies the relation between unit cohesion and performance (Siebold & Lindsay, 1999). In turn, performance success affects leader behavior in terms of support and goal emphasis (Farris & Lim, 1969). It is suggested in the literature that proactive, transformational leaders who are inspirational and intellectually demanding but also individually considerate promote higher levels of mission accomplishment and more effective group performance (Bass & Avolio, 2000). Similarly, task and emotional support from the leader facilitates identification with the unit and improves perceived combat readiness (Griffith, 2002).

According to evidence from a military sample, breaks in the leader-subordinate cohesion chain (from the members through the group leader to the unit leader or supervisor) decrease productivity in the unit. For example, a virtually intact vertical-cohesion chain (from members to the company commander) increases the likelihood of successful performance, whereas breaks on the platoon-leader level are associated with mediocre performance (Alderks, 1992). The worst impact on performance is to be expected when there are breaks on the platoon level, whereas above that level they have no relevant bearing on performance of the group (ibid.).

In terms of organizational cohesion, members' identification with the unit strongly affects its perceived effectiveness (Shamir et al., 2000). People who identify with the organization are willing to serve its purposes and goals (Ellemers, 2001), which explains the strong relationship between organizational cohesion and performance (Manning & Ingraham, 1983). Consequently, a group that is cohesive on the organizational level will perform better (Johns et al., 1984).

Mullen and Copper (1994) showed in their meta-analysis that cohesion in real groups had significantly stronger effects on performance than in artificial groups, and that the effect was even stronger in sport teams. This may be attributable to the fact that sport teams are genuinely task- and performance-oriented, and therefore task cohesion drives their productivity and group success. The type of group and the context therefore dictate the effect of cohesion on performance (Chiocchio & Essiembre, 2009). Task interdependence is a particular moderator of this relation. For example, according to the results of another meta-analysis, the uncorrected and corrected effect sizes showing the relation between cohesion and performance were .39 and .46, respectively, in conditions of high task

interdependence, whereas the same relation was .17 and .21, respectively at low levels of interdependence (Gully et al., 1995, p. 512).

Along the continuum of task interdependence (task independence – coactive dependence – reactive-proactive dependence – interactive dependence), the weakest association between cohesion and performance is perceived in groups in which people carry out their tasks independently, whereas cohesion boosts productivity most when the tasks are interactively dependent (Carron, 1982). Thus, the type of task (interaction and coordination) determines whether cohesion has a strong bearing on group performance (Carron & Chelladurai, 1981; Gully et al., 1995). In conclusion, tasks that involve group processes (such as planning, close coordination, sharing information, and performance monitoring) (Gully et al., 1995; Zaccaro, 1991) benefit most from unit cohesion, whereas a group engaged in tasks that do not call for coordination does not necessarily benefit from strong peer cohesion (Zaccaro, 1991).

Cohesion "represents different processes at different levels of analysis" (Griffith, 2002, p. 235). As a group-level phenomenon it most likely has the strongest effects on group-level criteria compared to individual perceptions or individual performance (Gal et al., 1987; Griffith, 1987; Gully et al., 1995). Further evidence of this was found in a meta-analysis showing that group cohesion was more strongly related to group performance than to individual performance (r = .40 vs. r = .20, respectively) (Oliver et al., 1999, p. 57).

Comprehensive meta-analyses have confirmed the positive relation between group cohesion and group performance (Evans & Dion, 1991, p. 179 (mean correlation of r = .36); Gully et al., 1995, p. 511 (r = .26); Mullen & Copper, 1994, p. 216 (r = .25); Oliver, 1988, p. 13 (r = .32), and Oliver et al., 1999, p. 60 (r = .33)). In sum, it is posited in the present study that the relation between cohesion and performance depends more heavily on commitment to the task than the members' interpersonal attraction (Mullen & Copper, 1994; Siebold & Kelly, 1988c; Zaccaro & Lowe, 1988). The basic rule is that attraction to the task leads to higher levels of performance (Salminen & Luhtanen, 1998) whereas interpersonal attraction has no direct effect (Zaccaro & Lowe, 1988), although it has an indirect impact through increased interaction frequency, improved task motivation (Zaccaro, 1981), and identification with organizational goals (Weiner, 1990).

Task cohesion is not the only determinant of outstanding group performance (Oliver, 1990). Cannon-Bowers (et al., 1995), for example, found that individual pretraining motivation, expectations of the training, task-related attitudes, self-efficacy, and training fulfillment influenced training outcomes. Steiner (1972), in turn, suggests that group performance is defined by task demands and characteristics, group resources (i.e., the knowledge, abilities, skills, and tools of the members), and group processes (i.e., actions of people doing tasks involving communication, coordination, and the normative pressure to perform) (see also Zaccaro, 1981). In the military, psychological readiness for combat is achieved through group-level

horizontal and vertical cohesion combined with individual-level morale, confidence in leaders, and confidence in group-combat capability (Furukawa et al., 1987). In addition, soldiers' personal motivation (Cannon-Bowers et al., 1995), their abilities and competences (Bowers et al., 1994; Lakhani, 1990; Salas et al., 1995), and the competences of their leaders (Siebold & Lindsay, 1999) influence the effectiveness of group performance.

Although several studies report a significant association between cohesion and performance, the causal direction is not certain. Some authors suggest that perceptions of cohesion are derived from actual or estimated levels of performance (Mullen & Copper, 1994), whereas Siebold (1999) and Casey-Campbell and Martens (2009) argue that the cohesion-performance relation may be an upward or downward spiral over time. Moreover, there are various moderators at work in different situations (e.g., in task- or socially-oriented groups), including the group task (Bartone & Adler, 1999), its type (Chiocchio & Essiembre, 2009) and status (branch, combat, non-combat, work, sport, social, elite) (Allen, 2003; Gal et al., 1987), the members' status (Allen, 2003), the goals (Klein & Mulvey, 1995), size, personality traits, and leadership style (Griffith & Vaitkus, 1999) of the group, its history and developmental stage (Bartone & Adler, 1999; Bartone et al., 2002; Siebold, 1999), the era and the culture (Gal et al., 1987), and the power structure, and stress (Griffith & Vaitkus, 1999).

Strong social and task cohesion do not always produce outstanding results. This is attributable to the fact that the opponent team may also be cohesive and even better trained or more experienced. In other words, the performance of the opponent group moderates the strength of the relation between cohesion and performance (Widmeyer et al., 1993). Alternatively, a group may be cohesive and interact and coordinate well during performance, but does not achieve anything due to a poor game strategy (ibid.).

On the other hand, various cohesion components may be uniquely related to group performance and other outcomes of cohesion. Most of the literature on cohesion concerns the associations between social and/or task cohesion and various outcomes. Social cohesion may enhance group performance, but not as consistently as task cohesion. Task cohesion enhances performance in additive group tasks (Zaccaro & Lowe, 1988), whereas peer cohesion may even decrease productivity (Rovio, Eskola, Klemola, & Lintunen, 2004) due to interaction among the members that interferes with their tasks (Zaccaro, 1981). Moreover, conflicting results have been reported indicating that social cohesion may positively enhance interaction among members, resulting in better performance perceptions (Patterson, Carron, & Loughead, 2005). Zaccaro and McCoy (1988) tested the differential effects of task and interpersonal cohesion, and identified a continuum of effects on performance based on the cohesiveness of the group. The lowest levels of performance are achieved in group with low task and low social cohesion. Such groups are outperformed by group with either high social cohesion but low task cohesion, or low social cohesion and high task cohesion. Finally, maximum

performance levels are achieved in groups in which both types of cohesion are strong (ibid.).

Although the first studies on cohesion tested for and showed a positive association between group cohesion and group performance (Goodacre, 1951), there has been discussion about the inconsistent findings and the explanations. The fundamental question is why cohesion facilitates performance in certain but not all circumstances (Widmeyer et al., 1993). As mentioned previously, the norms of group performance dictate whether peer cohesion has a positive or negative effect on productivity. Mikalachki (1969) already reasoned long ago that strong peer cohesion with a focus on group tasks and goals facilitates high productivity, whereas when the focus is on the social relationships of the members the result is low productivity. Similarly, Mudrack (1989) found that the most productive groups were cohesive and production-oriented, whereas the least productive were cohesive but non-production-oriented.

Table 1. *Norms Moderate the Effect of Cohesion on Performance*

Performance vs. Cohesion	Norms against Performance	Norms Supporting Performance
Strong Cohesiveness	The lowest productivity (——)	The highest productivity (+++)
Weak Cohesiveness	Low productivity (–)	Moderate productivity (+)

As Table 1 shows, a highly cohesive group with norms encouraging productivity tends to be the most productive of all, whereas strong cohesiveness and norms discouraging productivity lead to the least productive outcomes (Berkowitz, 1954; Blades, 1986; Carron, 1982; Hare, 1962; Schachter et al., 1951; Tziner, 1982; Yagil, 1995; Zaccaro, 1981). The suggested notions related to productivity norms (Schachter et al., 1951) include 'group drive' (Stogdill, 1972, p. 27), 'intensity of involvement' (Etzioni, 1975, p. 298), and 'shared commitment to the task' (Hackman, 1976, p. 1517), inherent in all of which is the assumption that the group members share attitudes and behavior that promote group productivity. The main reasoning is that unit cohesion is positively related to group performance only to the extent to which the members have adopted positive task-related norms.

In conclusion, peer cohesion refers to the strength of synergy maintenance and does not automatically dictate group performance. Task cohesion is a strong 'performance enhancer', having a direct positive effect on group and personal performance, whereas social cohesion with its indirect positive relation serves as a 'performance enabler' through moderating the effects of stress (Griffith, 1988, p. 168). The relation between task cohesion and group performance is (always) positive in that task cohesion is

associated with effective synergy and governs the direction of the group effort. The association between leader-subordinate cohesion and group performance is positive if the leader complies with the organizational goals and values and enforces them in group life. The association with organizational cohesion is most likely positive in that performance relates, to some extent, to particular organizational goals and values. Cohesion in a group with a balanced, relatively strong profile is a 'force multiplier' (Manning & Ingraham, 1983, p. 9), enabling it to outperform other groups. All in all, the description of du Picq (1870/1947) depicts the essence of cohesion and its influence on primary-group performance.

> *Four brave men who do not know each other will not dare to attack a lion. Four less brave, but knowing each other well, sure of their reliability and consequently of mutual aid, will attack resolutely. There is the science of the organization of armies in a nutshell.*
>
> *(du Picq, 1870/1947, p. 110).*

5 THE AIMS OF THE STUDY AND THE METHODS USED

5.1 THE RESEARCH PURPOSE AND THE CONTRIBUTIONS OF THE ARTICLES

There is an ongoing debate on how cohesion should be defined and conceptualized. The main objective of this study, as a contribution to this debate, was to define the main components of unit cohesion and to examine their predictors and impact on diverse attitudinal and behavioral criteria. The overall aim was thus to build a unifying structure encompassing cohesion and certain related concepts. Four main components were identified (i.e., peer, leader-subordinate, organizational, and institutional bonding) and explored in terms of predictors, constituents and criteria, and their measurement. In addition, the study addresses a number of substantive and methodological concerns with a view to contributing to the research on unit cohesion and facilitating the integration of several minimally related constructs into a more holistic picture.

The series of articles examined included in this dissertation focus on (a) the components of cohesion, (b) structural, attitudinal and behavioral differences in platoons and among conscripts based on their perceptions of group cohesion and (c) the differential impact of the different components on the variables. The basic research questions addressed in the study were:

1. What are the main components of unit cohesion?
2. What explains each component?
3. What is the relative impact of each component on criteria such as attitudes, behavior, and performance?

In addressing these questions the articles examine certain aspects of the model and their effects.

Article 1 – Variables Impacting Peer Group Cohesion in the Finnish Conscript Service

The overall purpose was to build a stronger basis on which to clarify and expand the theory of cohesion. This was broken down into three more specific aims, the first of which was to describe the degree of cohesion in a sample of Finnish conscripts. The second aim was to identify the major variables that predicted or led to peer cohesion over time in the sample in order to compile a reasonably accurate set of key predictors and to chart their relative change over time. Thirdly, the intention was to verify the association between peer cohesion and important military outcomes, and thus to narrow

one of the identified research gaps by further establishing the relative importance of cohesion compared to other factors that might influence military effectiveness.

The article addresses the following questions:

1. What is the degree of cohesion among Finnish conscripts (and how does cohesion change over time)?
2. What predicts peer cohesion over time, and how does the effect of the dominant predictors change?
3. How is peer cohesion related to group members' attitudes, behavior, and performance, and where is its strongest impact?

Article 2 – Import of Vertical Cohesion and the Linking-Pin Function in the Military

The focus in the second article is on vertical cohesion between leaders and their followers. The premise is that a leader occupies a position that spans different organizational levels, being a member of at least two hierarchical groups at the same time: this refers to the Likert's (1961) linking-pin theory. Thus, the article extends the focus beyond the primary group and examines the role of the leader who moves between the primary and the secondary group (i.e., between a group and the organization in which it embedded). Another premise is that the quality of the relationships between the leader and his or her followers determines his or her influence. In particularly, the bonding of the followers with the group leader (i.e., vertical cohesion) is assessed as a key component of effective integration into the organization and identification with its purpose.

Specifically, the research questions were the following:

1. What predicts vertical cohesion?
2. What are the significant differences between soldiers experiencing weak and strong vertical cohesion in their platoons?
3. What are the main differences between people based on their varying levels of confidence in the leaders of the primary (i.e., squad and platoon) and secondary (i.e., instructors) groups?
4. How is vertical cohesion related to the followers' attitudes, behavior and performance?

The main hypothesis, which was based on the existing literature, was that vertical cohesion is positively related to group members' (a) attitudes toward the military, (b) behavior in terms of malingering and deviance, and (c) performance as estimated by means of collective efficacy and performance ratings. In short, the stronger the vertical cohesion, the more favorable are the attitudes, behavior, and performance among group members.

Article 3 – Beyond Training Alone: The Role of Cohesion Maximizing Group Performance

The purpose of military training is to improve individual and group performance in preparation for demanding situations such as crises and war. The lack of attention to cohesion in the research on the relationship between training and performance constituted a major gap in the literature. Consequently, the third article examines the impact of four different cohesion components and training quality on personal and group performance. The purpose was to find out whether cohesion had an impact on the main outcome (performance) in the context of military organization and conscript service.

Specifically, the aim was to identify the major variables in group and personal performance among conscripts that predicted performance, and to analyze the extent to which the degree of cohesion and training were separately and jointly related to performance. The article does not deal with specific task-related training and cohesion variables or their impact on performance, focusing instead on a wider set of constructs to be considered in assessing their relative importance.

The main research questions were:

1. How are conscripts' perceptions of received training related to expected group and personal performance?
2. How is peer, leader, organizational, and institutional bonding related to group and personal performance?
3. Do rank-and-file soldiers differ from their squad leaders in their perceptions of training, cohesion, and performance?

The article also examines the extent to which performance is attributable to cohesion components, perceptions about training and other predictors, and what type of cohesion and training combination is associated with strong performance.

Article 4 – The Relation Between Sociometric Choices and Group Cohesion

Given the difficulties and limitations attached to sociometry, researchers thus far have used either sociometric choices or questionnaire-based scales to measure cohesion, but not both. The particular aim of the fourth article was to narrow that gap by applying both methods, and moreover to determine how sociometric choices relate to group cohesion measured on questionnaire-based scales.

Account is also taken of the relations among the sociometric and other variables on the individual and group level, the impact of background information on sociometric choice and group cohesion, and the association

between sociometric cohesion and various outcome criteria including attitudes, performance, and behavior.

The primary research questions were:

1. How are sociometric choices related to perceived cohesion, performance, and other measures in platoons?
2. How is sociometric group cohesion (i.e., ingroup choices) related to group-level peer bonding and performance?
3. What predicts individual choice status in a platoon?
4. What are the main differences between low-choice and high-choice-status soldiers?
5. What are the main differences between groups related to the amount of choice in leader selection?
6. How do groups with isolates differ from integrated groups (in which people have friends)?

The main hypothesis is that sociometric choices are positively related to cohesion and performance, and correspondingly that sociometric-group cohesion is positively related to group-level peer bonding and performance. Overall, the article links the presented model of cohesion components with early studies on group cohesion that incorporated sociometric friendship choices into the research design.

Article 5 – The Relation Between Group-Level Characteristics and Group Cohesion

There is evidence in the literature of a general association between the components of primary- and secondary-group cohesion as well as their predictive capacity of important criteria. What remains to be investigated, however, are the effects of different group-level characteristics these components and on performance and attitudes. The fifth article addresses these questions. There are three main objectives:

1. To describe the differences in cohesion among the platoons in the sample.
2. To identify the background variables that predict or seem to lead to platoon cohesion.
3. To determine the extent to which the degree of cohesion and other group-level characteristics are related to training performance and selected attitudinal and behavioral outcomes.

The more specific research questions were:

1. How are the four cohesion components related to group-level attitudes, behavior, and performance?
2. How do the less cohesive and the highly cohesive platoons differ from one another in terms of criteria (i.e., attitudes, behavior, and performance)?
3. What predicts weak or strong peer, leader-subordinate, organizational and institutional bonding in platoons?

4. What predicts peer cohesion over time?
5. How does the effect of the dominant predictors change over time?

The overall aim of the article was to enhance understanding of cohesion and group structure through the identification of group-level characteristics and group cohesion, and the determination of the variables that affect cohesion and are affected by it. In terms of future research, the intention was to produce results that enhance understanding of the processes that affect cohesion on the group level.

Article 6 - The Structure of Military Cohesion: Components, Predictors, and Outcomes

The last, sixth and last article synthesizes the diverse cohesion components and their associates. The aim was to simplify and clarify the primary components of unit cohesion in a coherent structure. The article also emphasizes the need to consider secondary-group cohesion, which has been overlooked or ignored in the literature thus far.

Both primary and secondary-group cohesion and their subcomponents were related to the various criteria. Specifically, the research questions were:

1. What predicts primary- and secondary-group cohesion?
2. How well do the background factors predict cohesion?
3. How does primary- and secondary-group cohesion relate to the outcome criteria (attitudes, behavior, and performance)?

The main purpose was to flesh out the construct of small unit cohesion and clarify the relations between cohesion and significant criteria by:

- Identifying the main components of unit cohesion;
- Determining the major variables that predict primary- and secondary-group cohesion;
- Assessing the extent to which the degree of cohesion is related to performance and attitudinal outcomes.

The Overall Aims of the Research Project

Research on unit cohesion has revealed positive correlations between cohesion and criteria such as strong performance, reduced stress, lower levels of indiscipline, and high re-enlistment intentions. However, the correlations have varied in strength and significance. Therefore, the purpose of the research was to show that much of the inconsistency could be resolved by taking into consideration the multi-component nature of cohesion and relating the most applicable components to specific outcomes.

The components of cohesion are briefly introduced in each article as a basis for their examination in relation to other constructs. The predictors of

the components are examined in the following order: the first article emphasizes peer cohesion, whereas the second focuses on vertical cohesion. Given that training is one of the primary activities and functions that promote both performance and cohesion, the third article explores the relations between these three separate aspects of organizational membership. The fourth article tests the associations between peer and leader selection and unit cohesion in order to clarify the relations between sociometric and survey-based cohesion measures. The fifth article focuses on group-level cohesion, and particularly on the differences between small units in terms of cohesion and other characteristics. Finally, the sixth article covers the whole model and tests the main predictors of each component, particularly the differences between primary- and secondary-group cohesion. Thus, each article identifies the relative importance of predictors and criteria to a specific cohesion component.

5.2 SAMPLE

The data were collected as part of a larger research project examining leadership (e.g., Salo, 2008b, 2008c), personal adjustment (e.g., Salo, 2008a), and group cohesion (i.e., this study). The full sample consisted of 2,047 conscripts who inducted in 2001 as the first (starting in January) or second (starting in July) contingent to the Armored Brigade in Hattula, Finland to serve their compulsory six- (minimum) to twelve-months conscript service. The length of service depended on the type and amount of training received. The conscripts were mainly from the province of Häme in south-western Finland, in which the cities of Tampere, Valkeakoski, Lahti, Hyvinkää, Riihimäki, Forssa, and Hämeenlinna are located.

The focus sample for the research on overall group cohesion comprised 1,792 conscripts who successfully completed their military service. Within this sample, data were obtained from 1,534 soldiers who responded to questionnaires during the basic training period and at the end of their service (i.e., 74.9% of the full sample). Eighty-eight percent of them were 19-20 years old, three percent were 18-year-olds, and nine percent were 21-28 year olds. The majority (42.5%) of the recruits had graduated with a high-school diploma after completing 12 years of schooling. Almost as many (39.5%) had studied for between nine and 11 years, while only 16 percent had only a comprehensive-school background, and just two percent were college graduates. All the recruits in the sample were Caucasian, and only 34 were female soldiers on voluntary service. However, only 21 of the females completed their service, and because of the small number and the fact that their responses were essentially similar to those of their male counterparts, no separate breakdown of female responses is given. Of those who completed their service, 53 percent were still privates, 33 percent were lance corporals

or corporals, seven percent were sergeants, and another seven percent had been promoted to platoon leader or an equivalent position. After completing their six-to-12 months training the conscripts were released from active duty and assigned to the reserves.

The focus sample for examining sociometric group cohesion consisted of 537 conscripts from 47 squads in 21 platoons in seven different types of unit; 366 of these conscripts (68.2% of the respondents) participated in all the tests. The platoons in this analysis varied in a) unit type (combat, combat support, and support units), b) military branch (armored, mechanized infantry, infantry, engineer, and anti-aircraft units), c) training program, d) group size, and e) group structure. The results could therefore be generalized to various types of teams and groups. Squad membership was determined based on different lists of groupings: formal groups (for the task) and the accommodation lists in the barracks. The barrack rooms accommodated one squad per room, thus the barrack-room lists were strongly related to squad membership and were used as the primary means of grouping the sociometric data; other group lists were used as secondary means if the data indicated that the first option was not valid. The descriptives of the larger sample and the sociometric sample were basically the same.

5.3 QUESTIONNAIRE ADMINISTRATION

The content of the individual questionnaire items and the structure of the measures were influenced by several things. First of all, researchers at the Department of Behavioural Sciences of the Finnish National Defence University provided invaluable guidance in planning a comprehensive research design that would be suitable for this study. In addition to giving help and advice concerning the questionnaire structure and word choices, they gave the author access to their questionnaires on group cohesion, specifically to the Combat Platoon Cohesion Questionnaire (Siebold & Kelly, 1988a) and other relevant military questionnaires. The Finnish military questionnaire, which was obtained from the Finnish Defence Forces, was used in conjunction with the cohesion questionnaire administered at the end of conscript service. However, the official questionnaire restricted the options available in terms of design and the need to avoid asking the same questions twice. The official survey focused especially on situational and institutional factors, such as the quality of the training, leadership, and social relationships in the group. However, the main restriction came from the overall research design that required the combination of the three different aspects (i.e., leadership, adjustment, and cohesion) into one data-collection concept. People's willingness to cope with long questionnaires also set a limit on the questions. Therefore, there was a need to downsize the scales, at the

same time as adding several independent background variables, in order to keep the length reasonable.

Preliminary interviews with instructors and selected conscripts took place during the fall of 2000, and the resulting data was used in the design of the survey instrument. The research design was planned in cooperation with researchers of the Finnish Defence Forces, and was based on literature, interviews, and the use of existing Finnish military questionnaires. Consequently, various combinations of questions were determined and included in the forms.

Most of the items measured opinions and attitudes on a five-point Likert scale varying from a strongly negative answer to a strongly positive one, or vice versa. The questions were worded affirmatively and negatively, and the scale items were separated from one another to prevent response sets and to reduce multicollinearity. Although, the resulting instruments were administered at three points in time (just before service, during the basic training period, and at the end of service) the emphasis in this research was on two Finnish-language surveys and one sociometric questionnaire, which were administered near the end of the six- or twelve-month conscript-training period.

The first questionnaire (98 questions), which was given to all new recruits background experience and current attitudes immediately upon entering the service, when the respondents had no direct experience of military life or service. It included questions on motivation, attitudes towards military service and national defense, the conscript's own estimation of his or her adjustment, personal background and personal situation at that time (Appendix 1). The conscripts filled in the second questionnaire (105 questions) when they had served six weeks of their basic training period. It contained items on peer cohesion, leadership, training, adjustment, and performance, and questions about mood changes and general attitudes toward military service. The two questionnaires formed the basic background data for the study, and a point of comparison when the cohesion components were contrasted at the end of the service period.

The third and fourth questionnaires (99–105 questions) were administered before the conscripts passed out of military service. At this point they had served either six or 12 months. Of the focus sample (n = 1,792), 1,660 respondents (92.6%) completed the third questionnaire and 1,534 (85.6%) returned the fourth one. These two questionnaires were the main tools for assessing the concripts' perceptions about their cohesion experiences during their military service (Appendix 1).

The questionnaires were typically administered to one company of soldiers at a time in a classroom and took the average soldier about 30 – 35 minutes to complete once the instructions had been given. It was decided not to administer both questionnaires on the same occasion for two reasons: responding to 99 and 105 items, respectively in one sitting would have been too much, and there would have been a higher risk of common-method bias.

All the respondents participated in the surveys voluntarily, and individual codes were used in order to maintain anonymity. The forms were electronically read and transferred to the SPSS program. The next stage was to check the variables for missing or faulty answers. If there was an imperfect line on the SPSS matrix the responses were verified from the person's form, and if they remained imperfect the questions were re-administered to the respondents and then transferred to the SPSS.

The fifth questionnaire was the sociometric measurement and was also administered just before the conscripts ended their military service. It comprises the following questions:

1. Who are your best friends in your platoon (one or more)?
2. In a combat situation (war), whom would you choose as your fighting partner from your platoon?
3. In a combat situation, which six persons would you choose to be in your squad? Choose from your own squad or the whole platoon.
4. In a combat situation (war), whom would you choose as your squad leader, if no official leader had been nominated?

These sociometric choices were transformed into two main types of measures: individual choice status and sociometric group cohesion.

5.4 MEASURES

The scales measuring the main constructs of interest were based on the research literature, the author' conception of group cohesion, and factor analyses of the conscripts' responses to the questionnaires. The validity and reliability of the measures were verified by means of factor analysis and reliability testing. The factor analysis showed whether the anticipated groups of items held together and formed distinct patterns, as assumed and planned. The primary aim was to scale the planned measures and to estimate their value to the research (Gorsuch, 1983). Given that there are established measures, the factor analysis was exploratory more than a confirmatory (Child, 2006).

A series of factor analyses was conducted with principal axis factoring extraction and orthogonal rotation (i.e., varimax rotation) (Rummel, 1970). Because some of the personal and situational factors were partly interrelated and not totally independent, each factor analysis was also subjected to promax oblique rotation, which permits correlation of the factors and consequently clarifies the results of analyses of concepts with low or moderate mutual variance (Child, 2006; Gorsuch, 1983).

The scales were constructed in accordance with the five criteria: descriptives, communalities, item loadings, the stability and meaningfulness of the constructs over time, and the results of the reliability test. First of all, descriptive information (i.e., the mean and standard deviation) was used as a

criterion for assessing the use of the variable: if the mean was more than 4.25 or less than 3.25, or the standard deviation more than 1.25 or less than .75, it indicated that the item had properties that set it apart from the other items, such as skewness based on a high mean or unreliability because of a high standard-deviation value. Secondly, the value of the communalities denoted common variance among the other variables (Nunnally, 1967): a value of less than .30 indicated that the item was not explained largely by others, in other words, that it was not related to other items. Such items were removed from the next phase of the factor analysis and the scale construction (Child, 2006).

The loading of the item in the factor analysis was the third possible removal criterion (Clark & Watson, 1995). An item that did not load more than .30 to any factor was omitted from the scales (Rummel, 1970). Additionally, in cases in which the loadings of an individual item were very similar across emergent factors, the item was removed from further analysis in order to avoid multicollinearity (Cohen, Cohen, West, & Aiken, 2003). The fourth criterion concerned the stability of the analyses over time (Gorsuch, 1983; Nunnally, 1967). Specifically, there were items that did not work at time 1 but were useful at times 2 and 3. For example, the concept of commitment comprised one large factor at time 1, but was divided into three sub-components – affective, normative, and continuance commitment – at times 2 and 3. This may have been attributable to the experience the respondents had gained, which in turn increased their ability to distinguish between different aspects in the military. The fifth, and methodologically the most important criterion in terms of the internal structure of the measures, reflected the results of the reliability test (Nunnally, 1967): if an item did not fit the other items on the scale in terms of adding something to it, it was removed. Finally, all these criteria in combination were applied in order to assess the utility of the questionnaire items.

The purpose of the series of factor analyses was to find and refine measures that would be as good as possible for examining unit cohesion at a certain time, and that also allowed examination over time from the basic training period until the end of military service. Therefore, the factor analyses proceeded in steps. All the available Likert-scale questionnaire items were included in the first step. The items that met the first four above-mentioned criteria were included in the second round, with different *n* and rotations options. The third step was to include the respondents who completed the third questionnaire (1,534) with the items that survived the previous steps. The fourth step was to conduct targeted factor analyses of the items that had loadings on various factors in order to clarify their mutual relations. Finally, the scales that contained the same relatively good items over time (based on their *M*, *SD*, communalities, factor loadings, and reliability tests) were refined for the research measures in the reliability tests.

The procedure for examining the time-3 items followed the pattern described above. Appendix 2 presents the main results of the factor analysis when the items that did not fit with other factors had been removed. At that

stage, 112 items underwent principal axis factoring with varimax and promax oblique rotations (the table shows the loadings created by varimax rotation). All in all, 23 factors explained 52 percent of the variance. The first factor accounted for 5.7 percent, and concerned personal adjustment experiences such as adjusting to the military and its discipline, and social and physical demands. *Personal Growth* comprising two of positive experiences during the service period and one item about training efficiency in the unit (4.8%) formed the second factor. The third factor comprised *Peer Cohesion*, two items about unit climate, and one item about the immediate leader (3.7%). *Emotional Stability* items containing negative statements about hazing, the acceptance of authority and dropping out of service formed the fourth factor (3.3%). Thus, whereas the first three factors concerned positive military experiences, this fourth one encompassed the major *negative perceptions and experiences*. Although there were 23 distinct factors, accounting for 52 percent of the variance, there was some overlapping, indicated by mutual loadings in the columns. Therefore, the fourth step of the factor analysis took into account the items that had loadings on various factors in order to clarify their mutual relations and thus refine the measures.

The establishment of a general pattern of factors at each phase of the data collection concluded the factor analyses. A series of Bayesian dependency models constructed for each questionnaire verified the pattern (cf. Myllymäki, Silander, Tirri, & Uronen, 2002 or on the internet: b-course.cs.helsinki.fi). The creative method builds a model based on the items' probabilistic dependencies. The variables that load together are also more likely to be dependent on one another (containing mutual variance) and therefore they are close together in the net, whereas items with no dependency are more distant from one another. Correspondingly, these items are usually in separate factors in the analysis, and have low mutual correlation. One of the biggest advantages of Bayesian modeling is that it exploits both linear and non-linear correlations between items, whereas factor analysis only utilizes linear correlations, and the connections of the skewed items are therefore more reliably identifiable (Figure 3). The Bayesian dependency model and the results of the factor analyses were subsequently compared, and the items formed dependences (i.e., they grouped together), as with the factor loadings.

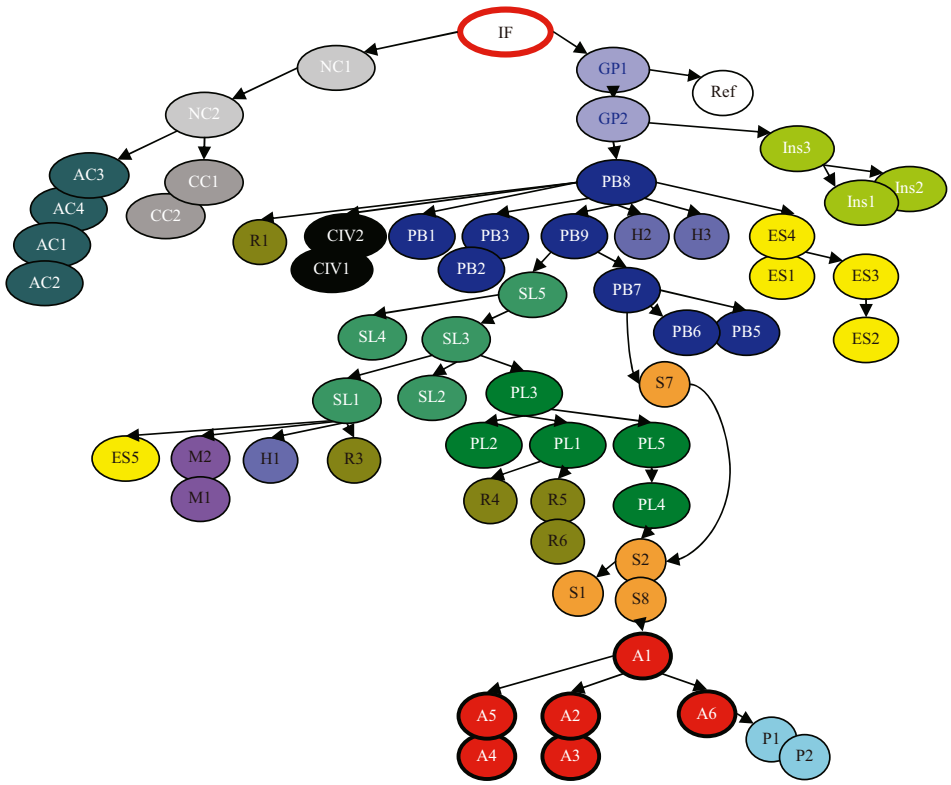

Figure 3 The Bayesian Dependency Model at the End of Service

Note. This is an example of the use of the Bayesian model to simplify the relations between the 61 items. IF = If Finland is attacked, Finns must defend themselves with arms; AC = Affective Commitment; GP = Group Performance; NC = Normative Commitment; PB = Peer Bonding; CC = Intent to Stay; H = Experienced Hazing; A = Military Adjustment; SL = Squad Leader; P = Physical Health; PL = Platoon Leader; S = Sociability; Ins = Instructor; ES = Emotional Stability; M = Malingering; R = Regimentation; Civ = Service Impact on Personal Civilian Life; Ref = I would like to participate in refresher training in a couple of years.

In the Bayesian model (Figure 3), the broadest attitudinal items build the higher-level structure on which all other items depend. In fact, the answers to the question *If Finland is attacked, Finns must defend themselves with arms in all circumstances, no matter what the end result* most strongly determined the perceptions of normative commitment to the military. The affective-commitment items formed a separate branch with the other commitment items, set apart from the other measures. Notably, the items related to primary-group cohesion experiences and perceptions, and especially to *Peer Bonding* and close leadership, were at the center of the model.

Methodologically, the main examination was made on the basis of the colored structure in the Bayesian models. If the same color formed a group with close connections to other items in the same set, it meant that they shared a lot of the variance, and in other words were part of the same factor. In spite of a few differences (for example between regimentation loadings), the results of the Bayesian dependency models and the factor analyses were similar. In other words, the factor items were in groups in the maps, and the items that overlapped in the factor analyses were also closer together in the Bayesian models (e.g., peer cohesion and squad and platoon leaders). It could thus be concluded that the Bayesian modeling supported the factor structure of the research. This phase of analysis ended the *item* examinations, which were now ready for the scale construction.

The scales underwent a series of reliability tests in which the psychometric properties were examined. Tables 2, 3, and 4 depict the cohesion-component measures and indicate the Cronbach's alphas (i.e., reliability), item-scale total correlations, and the scale means and standard deviations. Cohesion was assessed in terms of four types of bonding: peer, leader, organizational, and institutional. Each bonding level is conceptualized as partially related to the others, so that the strength of one type of bonding influences that of the other types. By definition, each bonding type or component has affective and instrumental aspects. For example, organizational bonding is an index consisting of the atmosphere in the unit (affective), pride in being part of the organization (affective), experiences in the organization (affective and instrumental), the quality of unit-level leaders (affective and instrumental), advantages of being in the unit (instrumental), and the utility of official goals (instrumental). In the main, the measures had adequate Cronbach's alphas: *Peer Bonding* .86; *Leader Bonding* .88; *Organizational Bonding* .76, and *Institutional Bonding* .81 (cf. Nunnally, 1967).

Table 2 lists the primary components of cohesion. The items on the *Peer Bonding* scale include perceptions about both affective and instrumental aspects of bonding among peer-group members and with their small groups (squad, platoon). The *Leader Bonding* scale includes items about the closest conscript leaders (squad and platoon leaders). *Organizational Bonding* was assessed on items concerning the unit atmosphere, experiences, and instructors. Instructors were from the permanent training cadre whereas the lower-level squad and platoon leaders were selected from the preceding six-month contingent of new soldiers and duly trained. *Institutional Bonding* includes items related to affective, normative, and continuance commitment.

Table 2. *Measures of the Cohesion Components (n = 1,534)*

PRIMARY-GROUP COHESION

Peer Bonding

1. My friends in military service have helped me significantly in adjusting to military life. *M* = 3.6; *SD* = 1.05
2. In my squad I get help when I need it. *M* = 3.9; *SD* = .99
3. I can influence decisions made in my barrack room / squad. *M* = 3.9; *SD* = 1.03
4. I feel appreciated in my squad / barrack room. *M* = 3.6; *SD* = 1.01
5. My squad emphasizes common goals. *M* = 3.2; *SD* = 1.19
6. My platoon has a good esprit de corps. *M* = 3.8; *SD* = 1.14
7. My current squad has a really good esprit de corps. *M* = 3.8; *SD* = 1.09
8. In war my squad members would help me even if it put them in danger. *M* = 3.7; *SD* = 1.07
9. In case of war, I would like to be in my current squad. *M* = 3.7; *SD* = 1.17

t3: α = .86; item-total *r* range = .50 - .64; *M* = 3.68; *SD* = .74.

Leader Bonding

1. I have been getting along well with my closest conscript superior. *M* = 4.0; *SD* = 1.10
2. My squad leader has dealt fairly and straightforwardly with me. *M* = 3.7; *SD* = 1.11
3. During field practice my squad leader has set an example and often tried his or her hardest. *M* = 3.3; *SD* = 1.19
4. On the whole my squad leader is a good person. *M* = 3.7; *SD* = 1.15
5. My squad leader masters his or her duties. *M* = 3.7; *SD* = 1.05
   During a crisis I would like to work under my current squad leader. *M* = 3.4; *SD* = 1.19
6. My platoon leader has dealt fairly and straightforwardly with me. *M* = 3.8; *SD* = 1.08
7. During the field practice my platoon leader has set an example and often tried his or her hardest. *M* = 3.6; *SD* = 1.10
8. On the whole my platoon leader is a good person. *M* = 3.8; *SD* = 1.10
9. My platoon commander masters his or her duties. *M* = 3.8; *SD* = 1.01
10. During a crisis I would like to work under my current platoon leader. *M* = 3.7; *SD* = 1.07

t3: α = .88; item-total *r* range = .40 - .67; *M* = 3.68; *SD* = .75.

SECONDARY-GROUP COHESION

Organizational Bonding

1. The atmosphere in my company / battery is good. *M* = 3.6; *SD* = 1.13
2. I am proud of my unit (company / battery). *M* = 3.4; *SD* = 1.33
3. I have experienced some really interesting and exciting events / moments during my conscript service. *M* = 3.6; *SD* = 1.24
4. I will have some very positive memories from my conscript service. *M* = 3.9; *SD* = 1.16
5. My closest instructor masters his or her duties. *M* = 3.9; *SD* = 1.14
6. My closest instructor has dealt fairly and straightforwardly with me. *M* = 3.8; *SD* = 1.14
7. During a crisis I would like to work under my current instructor. *M* = 3.6; *SD* = 1.24

t3: α = .76; item-total *r* range = .39 - .54; *M* = 3.70; *SD* = .77.

Institutional Bonding – Affective, Normative and Continuance Commitment

1. I am not interested in military service (AC).
   t1: *M* = 3.7; *SD* = 1.34; t2: *M* = 3.4; *SD* = 1.47; t3: *M* = 3.2; *SD* = 1.40
2. I feel at home in military service (AC).
   t1: *M* = 3.4; *SD* = 1.08; t2: *M* = 3.1; *SD* = 1.34; t3: *M* = 2.9; *SD* = 1.26
3. All men should carry out military service as a part of total defense (NC).
   t1: *M* = 4.1; *SD* = 1.20; t2: *M* = 4.1; *SD* = 1.19; t3: *M* = 3.9; *SD* = 1.30
4. Military service is every male citizen's duty (NC).
   t1: *M* = 4.3; *SD* = 1.15; t2: *M* = 4.1; *SD* = 1.19; t3: *M* = 4.1; *SD* = 1.22
5. I have considered applying for [alternative] civilian service (CC).
   t1: *M* = 4.6; *SD* = 1.05; t2: *M* = 4.4; *SD* = 1.13; t3: *M* = 4.3; *SD* = 1.26
6. I have considered dropping out of [military] service (CC).
   t1: *M* = 4.5; *SD* = 1.03; t2: *M* = 4.4; *SD* = 1.18; t3: *M* = 4.2; *SD* = 1.23

t3: α = .81; item-total *r* range = .48 - .67; *M* = 3.76; *SD* = .92.

Note. Response options: Totally disagree, Partly disagree, Difficult to say, Partly agree, Totally agree.

According to this research, institutional bonding is linked with organizational commitment. More precisely, it includes affective, normative, and continuance commitment, as Meyer and Allen (1984, 1997) in particular and the literature on organizational commitment (e.g., Allen, 2003; Gade et al., 2003; Heffner & Gade, 2003; Heffner & Rentsch, 2001; Karrasch, 2003; Tremble et al., 2003) suggest. Indeed, in a military organization it does not refer as strongly to a particular immediate hierarchical organization such as a company or battalion as to the military or army as a whole (institutional bonding) (cf. measures of organizational commitment such as Meyer & Allen, 1997). In short, commitment is targeted at the institutional level, and institutional bonding may be the more inclusive and appropriate term to describe the measure. Even in communities in which the institutional level is weak or non-existent, and commitment is linked to unit-level membership without a higher purpose, the institutional-bonding conceptualization of organizational commitment may be useful in identifying latent commitment behind daily motives.

Predictors of the four cohesion components were categorized in three different sets of predictor variables: a) personal and social capacity, b) primary-group experiences, and c) secondary-group experiences. The main predictor scales and items are presented in Table 3.

Table 3. *Predictors of the Cohesion Components (n = 1,534)*

Personal and Social Capacity

Sociability α = .83; item-total *r* range = .38 - .80; *M* = 4.24; *SD* = .71

1. I normally adjust to a new environment. *M* = 4.3; *SD* = .84
2. I have adjusted to dormitory accommodation. *M* = 4.4; *SD* = .92
3. I can adjust to being around people I do not know. *M* = 4.4; *SD* = .83
4. I get along with my barrack mates / squad. *M* = 4.4; *SD* = .88
5. It is easy for me to make new friends. *M* = 3.9; *SD* = 1.06

Adjustment to Regimentation α = .73; item-total *r* range = .36 - .62; *M* = 3.20; *SD* = .82

1. The rush and strict timetable have considerably decreased my motivation. *M* = 3.1; *SD* = 1.29
2. In the mornings the wake-up call should be later. *M* = 2.4; *SD* = 1.42
3. It annoys me that as a conscript I have to compromise over my personal comfort. *M* = 2.4; *SD* = 1.27
4. I cannot stand being ordered around and commanded. *M* = 4.0; *SD* = 1.13
5. Discipline during the training is too strict. *M* = 3.5; *SD* = 1.18
6. The last two weeks have been too busy. *M* = 3.8; *SD* = 1.30

Physical Health α = .78; item-total *r* = .64; *M* = 4.16; *SD* = .87

1. I have coped with the physical demands of military service. *M* = 4.1; *SD* = .94
2. My health has corresponded to the demands of military service. *M* = 4.2; *SD* = .98

Emotional Stability α = .80; item-total *r* range = .48 - .66; *M* = 4.21; *SD* = .82

1. I often feel depressed. *M* = 3.9; *SD* = 1.17
2. I have had suicidal thoughts. *M* = 4.6; *SD* = .99
3. I have often felt that life is not worth living. *M* = 4.3; *SD* = 1.23
4. I am often anxious and tense. *M* = 4.2; *SD* = 1.08
5. If I could live my life all over again, I would do almost everything differently. *M* = 4.1; *SD* = 1.12

Military Adjustment α = .88; item-total *r* range = .64 - .77; *M* = 3.93; *SD* = .85

1. I have adjusted to military service *M* = 4.0; *SD* = 1.07
2. I have adjusted to the rush and the strict timetables *M* = 3.8; *SD* = 1.11
3. I have adjusted to military discipline *M* = 3.8; *SD* = 1.13
4. I have adjusted to being away from my friends *M* = 3.8; *SD* = 1.13
5. I have adjusted to being away from my family *M* = 4.1; *SD* = 1.02
6. I can cope with the mental pressure of conscript training *M* = 4.1; *SD* = .97

Primary-Group Experiences

Friends α = .63; item-total *r* = .47; *M* = 3.69; *SD* = 1.06

1. I have a friend in the army to whom I can talk about anything. *M* = 3.6; *SD* = 1.34
2. I have made some really good friends in the army. *M* = 3.8; *SD* = 1.12

Experienced Hazing α = .66; item-total *r* range = .44 - .51; *M* = 3.83; *SD* = .97

1. I was hazed in the military. *M* = 4.1; *SD* = 1.19
2. Other conscripts laugh at my failures. *M* = 3.4; *SD* = 1.30
3. My fellow conscripts have pressured me mentally or physically. *M* = 3.9; *SD* = 1.28

Secondary-Group Experiences and Attitudes

Instructors α = .84; item-total *r* range =.67 - .73; *M* = 3.78; *SD* = 1.02

1. My closest instructor masters his or her duties. *M* = 3.9; *SD* = 1.14
2. My closest instructor has dealt fairly and straightforwardly with me. *M* = 3.8; *SD* = 1.14
3. During a crisis I would like to work under my current instructor. *M* = 3.6; *SD* = 1.24

Training Quality α = .77; item-total *r* range = .48 - .61; *M* = 3.35; *SD* = .80

1. The training facilities are appropriate. *M* = 3.5; *SD* = 1.06
2. The training methods have been appropriate for the skills in question. *M* = 3.4; *SD* = 1.03
3. The weapons and equipment used in training have been appropriate and functional. *M* = 3.6; *SD* = 1.09
4. Generally, the field practices were organized effectively. *M* = 3.2; *SD* = 1.16
5. The daily program was usually organized effectively. *M* = 3.1; *SD* = 1.18

Allowed to Think α = .83; item-total *r* range = .50 - .64; *M* = 3.49; *SD* = .76

1. During the training my squad has been allowed to try out ideas and solutions. *M* = 3.1; *SD* = 1.22
2. During the training I have been allowed to try out my own ideas and solutions. *M* = 3.1; *SD* = 1.28

Training Information and Feedback α = .83; item-total *r* range = .50 - .64; *M* = 3.49; *SD* = .76

1. At the beginning of the training I was clearly told of the training goals. *M* = 3.5; *SD* = 1.07
2. I have been aware of whether I have achieved the training goals. *M* = 3.5; *SD* = 1.05
3. After the training, an instructor told my squad how well we performed. *M* = 3.7; *SD* = 1.09
4. I have been informed how well I have done in training. *M* = 3.4; *SD* = 1.11
5. After the training, we were told what went well and what did not. *M* = 3.7; *SD* = 1.06
6. The instructor's feedback has helped me understand how to perform. *M* = 3.4; *SD* = 1.10
7. I have been aware of how I have done in the training compared to others. *M* = 3.3; *SD* = 1.11

Training Motivation α = .70; item-total *r* range = .45 - .60; *M* = 3.61; *SD* = .93

1. I want to learn the things that are taught thoroughly. *M* = 3.7; *SD* = 1.15
2. I am willing to participate in training that is intellectually demanding. *M* = 3.4; *SD* = 1.26
3. I have tried to do my best in the training. *M* = 3.8; *SD* = 1.12

The personal capacity for close relationships and social integration was assessed on the scales for *Sociability* (e.g., "It is easy for me to make new friends"), *Regimentation* (e.g., "I cannot stand being ordered around and commanded"), *Military Adjustment* (e.g., "I have adjusted to military service"), and *Physical* and mental health (i.e., *Emotional Stability*). *Sociability* refers to a conscript's ability to adjust to social relationships and the environment (e.g., being part of group and living in a dormitory), whereas *Adjustment to Regimentation* assesses the ability to deal with and tolerate authority relationships in the military. *Military Adjustment* measures a soldier's ability to accept the military environment more generally. Whereas sociability is assumed to indicate a personal capacity to create bonding with the primary group, military adjustment focus more on the secondary group, especially in terms of institutional bonding. The second set of primary-group predictors included two scales: *Friends* (e.g., "I have a friend in the army to whom I can talk about anything" and "I have made some really good friends in the army") and *Experienced Hazing* (e.g., "I was hazed in the military" and "My fellow conscripts have pressured me mentally or physically"), which measured positive and negative peer experiences. The third set of predictors was related to the secondary group and assessed *Training Quality* and *Training Information and Feedback*, consisting of items such as "The daily program was usually organized effectively" and "I have been informed how well I have done in training." In sum, the scales measured unit training in terms of how it was organized and executed.

Some of the lowest reliabilities were observed among predictors such as *Adjustment of Regimentation* ($\alpha = .73$), *Friends* ($\alpha = .63$), and *Experienced Hazing* ($\alpha = .66$). All the scales apart from the first one contained only two or three items, which made them less reliable. The main reason for the low reliability of some of the measures was that there were either too few or too diverse questions. However, all the scales showed sufficient internal reliability as well as adequate item-total correlations (ranging from .36 to .80) (cf. the discussion on inter-item correlations; Clark & Watson, 1995; Streiner, 2003).

In this research, the criterion scales gauged the absolute and relative predictive power of each cohesion component. The purpose was not so much to find the best predictors of each criterion as to show how different components predicted different kinds of performance, attitudes, and behavior (cf. criteria in Table 4).

Table 4. *Measures of the Cohesion Outcomes (n = 1,534)*

A. Performance Outcomes

Group Performance α = .85; item-total *r* = .75; *M* = 3.49; *SD* = 1.06

1. The squad to which I belong would do well in real combat. *M* = 3.5; *SD* = 1.16
2. The platoon I belong to would do well in real combat. *M* = 3.5; *SD* = 1.11

Personal Performance α = .77; item-total *r* range = .47 - .58; *M* = 3.54; *SD* = .77

1. I have a clear picture of my duty during a war. *M* = 3.7; *SD* = 1.18
2. On the basis of my training I could do my duty during a war. *M* = 3.7; *SD* = 1.09
3. The training has given me the mental skills for battle situations. *M* = 3.2; *SD* = 1.12
4. In all circumstances, I have mastered the necessary weapons and equipment needed to do my duty. *M* = 3.9; *SD* = 1.01
5. On the basis of my physical condition I could get through two weeks of battle and three to four days and nights of decisive battle. *M* = 3.3; *SD* = 1.22
6. On the basis of my mental health I could get through two weeks of battle and three to four days and nights of decisive battle. *M* = 3.5; *SD* = 1.15

Rated Individual Performance (by Instructors) α = .79; item-total *r* = .66; *M* = 3.64; *SD* = .75

1. Wartime field proficiency. *M* = 3.6; *SD* = .81
2. Military performance overall estimation. *M* = 3.7; *SD* = .85

B. Career Intentions, Attitude towards National Defense and Military Service

Career Intentions α = .87; item-total *r* range =.69 - .80; *M* = 2.07; *SD* = 1.11

1. I would consider working in the Defence Forces after my conscript service. *M* = 2.0; *SD* = 1.29
2. My conscript-service experiences have increased my interest in staying in the service of the Defence Forces. *M* = 2.0; *SD* = 1.21
3. In my view the Defence Forces would be a good employer. *M* = 2.2; *SD* = 1.24

Refresher Training Intentions

1. I would like to participate in refresher training in a couple of years. *M* = 2.6; *SD* = 1.46

Attitude Towards National Defense α = .78; item-total *r* range = .61 - .62; *M* = 4.34; *SD* = .82

1. If Finland is attacked, Finns must defend themselves with arms in all circumstances, no matter what the end result. *M* = 4.3; *SD* = 1.03
2. I am ready to participate in military national defense as part of national-service duties. *M* = 4.2; *SD* = 1.04
3. Finland has to have functioning Defence Forces. *M* = 4.5; *SD* = .89

C. Other Outcomes

Personal Growth and Development α = .87; item-total *r* range = .55 - .68; *M* = 3.40; *SD* = .86

1. Because of the military service I can take other people into consideration as well. *M* = 3.3; *SD* = 1.15
2. My mental stamina has improved considerably during my military service. *M* = 3.5; *SD* = 1.11
3. The rules and restrictions of the army have been an educational experience. *M* = 3.4; *SD* = 1.22
4. My independence has increased during my military service. *M* = 3.3; *SD* = 1.24
5. In the army I have learned to take responsibility for myself and others. *M* = 3.6; *SD* = 1.10
6. The army has taught me self-control. *M* = 3.5; *SD* = 1.24
7. During my time in the army, I have learned to organize my schedule. *M* = 3.3; *SD* = 1.17
8. The army has a significant educational purpose. *M* = 3.4; *SD* = 1.25

Exemption Attitude α = .80; item-total *r* = .67; *M* = 4.01; *SD* = 1.26

1. I have applied for exemption from field exercises even when I was not ill. *M* = 4.1; *SD* = 1.35
2. I have applied to a medical officer or doctor for exemption because I could not care less about doing military service. *M* = 3.9; *SD* = 1.41

The relevant criterion scales were developed in order to answer to question of whether cohesion is related to attitudinal, behavioral, and performance criteria. Conscripts' perceptions of their performance were assessed on two scales: *Group Performance* (two items) and *Personal Performance* (six items). The instructor's two ratings of conscript capability for wartime duties were averaged to form an important-criterion scale, *Rated Individual Performance*, which was not biased by the same inquiry method or source of information, in other words the conscript. In terms of *Personal Growth* (eight items), the conscripts indicated the extent to which they had developed as a person during their military service, whereas *Career Intentions* (three items) concerned the degree of interest in a military career. Similarly, on *Refresher Training Intentions* scale (one item), the conscripts indicated their commitment to undergoing future refresher training. The *Attitude Towards National Defense* scale (three items), assessed the conscripts' opinions of the need for the military defense of Finland, and finally the *Exemption Attitude (Social Loafing)* (two items) measured the extent to which the conscript unnecessarily applied for medical exemption from training. Additionally, a few predictors were utilized as a criterion for testing whether the cohesion components were related to *Emotional Stability* among the conscripts, for example.

The final step was to develop the primary survey measures and test their reliability. Sociometric measures had to be incorporated into the research

design in order to link this study to the tradition of cohesion research. In this research, personal-choice status was based on the sociometric questionnaire. It refers to the extent to which a person was chosen as a friend, a fighter, a group member, or a leader (proportional to the group size). For instance, the friend status of a group member was determined by means of the formula $CS_{friend\_1} = \sum c_{friend\_1} / (n - 1)$, where CS_{friend_1} is the choice status of the first person in a squad; $\sum c_{friend\_1}$ is the column sum of the number of times the person was chosen as a friend; and n is the number of individuals in the platoon. Given that the platoon was a meaningful reference group for the conscripts (sometimes even more so than the squad) and because of the large number of different squads in the data, the number of people in a platoon was used as the base in the formula. Later different formulas were compared, and the platoon n turned out to be the most salient reference grouping for the respondents.

A given person's choice status varied depending on what the respondents were being asked to choose (friend, fighter, group member, or leader) (Table 5). Thus, in order to form a measure of the average choice status of a group member, all four indices were pooled together, thereby providing a summary measure of his or her status in the platoon. This pooling has also been used in previous research (e.g., Jennings, 1950), and the scale properties for the pooled-choice status were reasonable (e.g., α = .81).

Table 5. *Sociometric Indices (n = 537)*

A. Individual Sociometric Choice Status [CS = ∑person's choices / (n – 1)]

1. Who are your best friends in your platoon (one or more)?
2. In a combat situation (war), whom would you choose as your fighting partner from your platoon?
3. In combat, which six persons would you choose to be in your squad?
4. In a combat situation (war), whom would you choose as your squad leader, if no official leader had been nominated?

Pooled Choice Status α = .81; item-total r range = .41 - .82; M(%) = 11.6; SD = 11.8

B. Group-Level Sociometric Peer and Leader Cohesion [S_{Coh} = ∑(ingroup choices) / $n(n - 1)$]

1. Sociometric Peer Bonding Index = Summed S_{Coh} of questions 1, 2, and 3
   α = .86; item-total r range = .69 - .77; M(%) = 30.9; SD = 17.5; n = 47
2. Sociometric Leader Bonding = S_{Coh} (question 4) M(%) = 7.0; SD = 5.5; n = 44

C. Sociometric Status of the Group in the Platoon

1. Sociometric Group Status in the Platoon = summed $S_{GroupStatus}$ of questions 1 to 3
   [$S_{GroupStatus}$ = [∑(choices towards the group in platoon) / $n_{platoon}(n_{platoon} - 1)$] / n_{group}]
   α = .83; item-total r range = .64 - .91; M(%) = 11.0; SD = 6.6; n = 47

On the group-level of analysis, the measurement of sociometric cohesion was based on ingroup versus outgroup choices (as numbers and percentages). One-way choices were preferred over mutual choices, because mutual choices indicate reciprocated friendship and any resulting cohesion index might measure mostly individual-level friendship. Given that cohesion refers to a group property that makes people remain in a group (Festinger et al., 1950), resist disruptive and disintegrative forces, (Gross & Martin, 1952; Shils & Janowitz, 1948), and create a social identity as a group member (Hogg, 1992), the cohesion index of the sociometric group should measure the group as a whole without focusing essentially on friendship within it (Cartwright, 1968). Therefore, sociometric-group cohesion in this report indicates how many sociometric (one-way) choices were targeted on their own group versus other groups (Secord & Backman, 1964). Specifically, the measure was calculated based on the formula: $S_{Coh} = \sum(\text{ingroup}) / [n(n-1)]$, where $\sum(\text{ingroup})$ is the sum of the ingroup choices.

Complementing the surveys and the sociometric questionnaire, accessible archival data were collected and combined with the soldier's perceptions and identification with different aspects of the service. This part of the data comprised items such as rank, period of service, number of doctor's appointments, granted exemptions from daily service activities, the number of effective service days (i.e., without absence from training), physical fitness, and the number of disciplinary incidents. Moreover, socio-economic data were obtained from questionnaires and records. Taken together, the background items, the civilian and military records, and the surveys created a multi-faceted instrument for explaining diverse cohesion components and discovering the relevant predictors and criteria of unit cohesion.

6 RESULTS

6.1 VARIABLES IMPACTING PEER GROUP COHESION

The first article examines peer cohesion. In particularly, it describes the degree of cohesion, identifies the major predictor variables and a set of key predictors and their relative change over time, and finally explores the association with military outcomes. According to the regression analysis, experienced peer cohesion during the basic training period was attributable to sociability (i.e., personal social adjustment and relationships ease) and the quality of the leaders, which accounted for 44 percent of the variance. At the end of military service, the best predictors of perceived peer cohesion were the company climate, relationship ease, positive experiences, the quality of the conscript squad leaders, and social adjustment (48 percent of the variance) suggesting that secondary-group experiences, sociability, and primary-group leadership are explanatory factor.

Discriminant analysis identifies the relative importance of variables in predicting alternate states or outcomes in a dependent variable, and it was utilized to verify the relative importance of the main variables. The discrimination between the high and low peer-cohesion portions of the sample were explained by *company climate, social adjustment, training information and feedback, the squad leader, relationship ease, positive experiences*, and *experienced hazing*. This discriminant function correctly classified 86 percent of 547 conscripts. In terms of methodology, the same variables were the strong predictors regardless of whether the analysis covered the full distribution of responses on the peer-cohesion scale, as in the stepwise regression, or whether it focused on the tails of the distribution as with the discriminant analysis.

The results suggest that peer cohesion mostly develops and forms over time through interaction and experiences in groups rather than as a mechanical consequence of initial states or group-member demographic and background characteristics. For example, most of the demographic and background variables correlated only minimally with peer cohesion at the end of military service and as a set explained about only 10 percent of its variance. In contrast, the combination of personal sociability, primary-group experiences, and perceptions about the secondary group affected peer cohesion.

Attitudes and expectations just before military service began explained part of the peer cohesion during the basic training period. Specifically, attitudes toward training and military service, adjustment in civilian schooling, sociability, and emotional stability accounted for 21 percent of the variance. Similarly, these items correlated significantly with peer cohesion at the end of the service period accounting cumulatively for 13 percent of the

variance. Sociability (containing items about social adjustment and relationship ease) and organizational commitment (including three related subscales) measured during basic training explained 20 percent of later peer cohesion, whereas these same constructs measured at the end of service explained 35 percent of the variance.

The changes in peer cohesion (between the end of basic training and the end of military service) correlated most strongly with the *changes* experienced in the company climate (r = .36), expected group performance (r = .28), experienced hazing (r = -.25), perceived leader capability (r = .24), personal social adjustment (r = .23), and attitude towards training (r = .22), cumulatively accounting for 26 percent of the variance. In other words, the changes were mostly a function of perceived changes in climate, group-performance capability, leadership, social experiences, and training utility across the distribution of response changes.

In terms of outcome criteria, peer cohesion related significantly (p < .001) to both group and personal performance (r = .43 and r = .36, respectively), and rated individual performance (r = .24). It was also found that peer cohesion was related to the number of days *without* seeking *exemption* from training (r = .22), and to the number of doctor appointments (r = -.10; p < .01), suggesting a protective function against social loafing. Moreover, peer cohesion was associated with attitudinal criteria such as attitudes toward national defense (r = .28) and career intentions (r = .13).

6.2 THE SIGNIFICANCE OF VERTICAL COHESION AND THE LINKING-PIN FUNCTION

The focus in the second article is on vertical cohesion between leaders and their followers, and specifically the predictors, the significant differences between soldiers experiencing weak and strong vertical cohesion, and the possible association with the followers' attitudes, behavior and performance. The main hypotheses under scrutiny are that vertical cohesion relates positively to group members' (a) attitudes toward the military, (b) behavior in terms of malingering and deviance, and (c) group and personal performance.

The relevant foci of leader bonding during conscript service were the conscript squad leader, the conscript platoon leader, and the permanent staff instructor. The squad and platoon leaders operate on the primary-group level and are part of the group (as they are all conscripts). On the other hand, instructors represent the military, serve their career, and perform on the secondary-group level and do not take part in the informal primary-group life.

In terms of performance perceptions and ratings, vertical cohesion had a relatively even but positive and significant relationship with performance

across the different leader foci. On the other hand, attitudinal criteria only had a low association with the various factors, indicating that aspects other than leadership influence attitudes in favor of or against the military. Interestingly, there were some differences in how bonding with leaders related to different criteria. Bonding with the squad leader was slightly more closely connected to peer and organizational cohesion than bonding with the platoon leader or instructor. On the other hand, bonding with the squad leaders in particular did not influence the number of doctor's appointments, exemptions, or malingering. Other analyses showed that squad leaders and rank-and-file soldiers did not differ in social loafing, whereas conscript platoon leaders had significantly fewer exemptions. The consequent assumption is that squad leaders are more a part of the norm system of their informal peer group than platoon leaders, and therefore (in this case) tended to adopt the norms of their followers in terms of going against the organization to a greater extent than they were able to instill in their squads a favorable orientation to the military. In this regard, it could be concluded, that compared to platoon leaders and instructors, the squad leaders did not try to link their squads with the organization.

The next step was to divide the values of primary-group vertical cohesion (i.e., bonding with the squad and platoon leaders) into three levels – weak, medium, and strong. Basically, the measures that had significant correlations with the specific foci of vertical cohesion had also showed significant differences between the weak and strong groups. For example, conscripts with weak vertical cohesion in the platoon perceived their peer and organizational cohesion as weaker, did not value their training, were physically and mentally less fit, and tried more often to avoid military service. Moreover, soldiers with weak vertical cohesion were rated lower by instructors, and had notably lower levels of collective and self-efficacy in terms of performance. They had considered dropping out of military service, they did not want to participate in refresher training exercises later on, and they perceived the importance of national defense and their own experiences as part of it less favorably. The main impression was that weak vertical cohesion left the soldier apart from the group, the unit, and the military, and this was manifested in a bad attitude, mediocre performance, and avoidant or deviant behavior during the service period.

The next task was to find out which of these significantly related items and factors explained most the vertical-cohesion scale. First of all, vertical cohesion was related to identification with the closest secondary group in the organization (i.e., the unit) and its unit atmosphere, pride in the unit among the conscripts, and positive experiences in the unit in general. In fact, organizational cohesion explained 20 percent of the variance in perceptions of vertical cohesion. Secondly, positive training experiences linked the conscripts emotionally and instrumentally with their leaders. Thirdly, the association between the concepts of vertical and peer cohesion was moderate but significant, suggesting that the closest group leaders were integrated into

the primary group. The last theoretically independent component was regimentation. Thus, the conscripts evaluated their vertical cohesion in accordance with their own adjustment to the restrictions on their freedom, and the rigorous discipline, the pace and the strict timetable that characterize military life. This suggests that the closest leader acted as a moderator between organizational demands and the conscripts' personal capacities to fulfill them. In other words, the conscripts developed trust and confidence in the leaders who helped them to cope with the military pace and discipline.

The focus then shifted to breaks in the vertical-cohesion chain, especially in cases in which the confidence in the conscript leader or instructor was lost while remaining high in the counterpart. The most interesting finding pertained to soldiers with strong vertical cohesion (among their immediate leaders) but with negative attitudes toward their instructor: they were less obedient, had higher levels of negative organizational cohesion and placed less value on being part of the military. The main conclusion was that among the differences between the conscript leaders and instructors, the instructors were more like a linking-pin between the military and the conscript than the primary-group leaders.

On the other hand, *soldiers* and their *conscript leaders* easily adopted organizationally unfavorable norms and attitudes if they were not connected to the larger organization as a result of good relationships with their instructors (i.e., career officers), for example. Moreover, further analysis revealed that strong bonding with both groups of leaders always coexisted with good qualities in criteria such as conscripts' attitudes and perceptions about their experiences, and better rated performance. In contrast, the hierarchical breaks in vertical cohesion involved lowered attitudinal and performance levels. Basically, the results confirmed the association of vertical cohesion in platoons with rated and perceived performance, attitudes toward the unit (cohesion) and the military (e.g., affective commitment), and behavioral criteria (such as good conduct).

However, vertical cohesion did not determine all of the conscripts' attitudes, and did not affect their career intentions or views on national defense, for example. In other words, the *conscript leaders* did not have a consistent influence on their followers' career intentions or their attitudes towards defending their country. These perceptions may already be present during the basic training period, or even before. On the other hand, there may have been other factors that were more influential than the closest leaders, such as the instructors' behavior and performance, unit policy and the quality of its practices, or the amount and quality of briefings about military-career options and the significance of national defense in general.

6.3 BEYOND TRAINING: THE ROLE OF COHESION IN MAXIMIZING GROUP PERFORMANCE

The third article examines the impact of four different cohesion components and training quality on personal and group performance. Specifically, it focuses on the major variables that proved to predicted conscripts' group and personal performance, and analyzes the extent to which the degree of cohesion and training were separately and jointly related to performance.

The associations between cohesion, training, and performance suggest that soldiers and their squad leaders differ in terms of predictors and criteria. In the rank-and-file soldiers' sample, *group performance* had the highest correlations with organizational (r = .44) and peer (r = .43) bonding, whereas the corporals' perceptions of group performance were more strongly related to the training scales. The four strongest correlations with *personal performance* were with institutional bonding (r = .52), training information and feedback (r = .51), training quality (r = .47), and organizational bonding (r = .46). Conscript performance as rated by instructors was, surprisingly, only weakly related to soldiers' perceptions of their training, cohesion, or performance. Another astonishing finding was that the *rated individual performance* was more strongly related to the cohesion scales than to the scales measuring training perceptions. According to the correlations, organizational bonding was the key component related the other cohesion elements, training scales, and all three performance criteria.

A series of partial correlations was computed in order to determine which of the components (training or cohesion) was more strongly related to the performance scales. When the training scales were controlled for, *group performance* had the highest correlation with peer bonding (r = .28), and *personal performance* with institutional bonding (r = .34). *Performance ratings* had almost the same correlation with all the bonding levels (r = .17–.19). When the bonding scales were controlled for, *group performance* was most strongly related to training information (r = .15, r = .25) and training quality (r = .13, r = .25), although less so in the soldiers' than in the corporals' responses. Similarly, *personal performance* was related to training feedback (r = .22 vs. r = .37) and training quality (r = .23; in both subsamples).

Surprisingly, there was no association between *rated individual performance* and the training scales in either case. In other words, the performance ratings were considerably more strongly related to the bonding scales than to training. The instructors apparently based their assessment more on the direct influence of cohesion than on the training. In any case, the training scales correlated most strongly with perceptions about *personal performance*. Overall, cohesion showed significantly stronger partial correlation with the performance scales than with training, especially with rated performance. Given these partial correlations, it is reasonable to

question the extent to which training is directly related to perceived or rated performance.

It appears from the results that both cohesion and training correlated with performance independently. Of the different performance measures, group performance was most strongly associated with peer bonding, personal performance with institutional bonding and the training scales, and instructors' performance ratings with peer bonding. Notably, the instructors' performance ratings were not related to the conscripts' training perceptions. These findings imply that cohesion should be included in training programs in order to develop personal and group performance.

The regression analyses showed a) the relative importance of the different cohesion scales, b) the relative importance of the training scales, and c) the extent to which all the scales explained performance. Generally, conscripts' individual *performance ratings* were based mainly on their obedience, aptitude level, physical fitness, mental health, and peer bonding (R = .53; R^2 = .27). This suggests that instructors gave good ratings to soldiers who showed up for training, they thought were smarter, were physically and mentally healthy, and did what they were told to do. Peer bonding in the model may indicate the person's teamwork capability, which was noticed by the instructors and considered a key element of individual performance in the military.

Personal performance perceptions (referring to self-efficacy) were attributable to institutional and leader bonding, training, and physical health (R = .67; R^2 = .44). The impact of institutional bonding is particularly noteworthy, suggesting that soldiers base their estimates of personal performance on their commitment. In terms of *group performance*, the models emphasize the importance of all four cohesion components, and particularly peer and organizational bonding.

In sum:

a. Perceptions of both training and cohesion were important in terms of understanding group and personal performance;
b. Training perceptions were more effective in explaining personal than group performance, whereas the opposite was the case with cohesion;
c. Every cohesion component was significant in explaining the different kinds of performance perceptions or ratings;
d. Peer bonding and training explained expected group performance best;
e. Perceptions of personal performance were more strongly attributable to institutional bonding (commitment) than group performance;
f. Physical health was the only powerful scale apart from the training and cohesion components in terms of explaining performance.

6.4 SOCIOMETRIC CHOICES AND GROUP COHESION

The aim in the fourth article was to determine how sociometric choices related to group cohesion measured on the questionnaire-based scales. Attention is also given to the associations among the sociometric measures and the other variables, the impact of background information on sociometric choice status and cohesion, and the relationship between sociometric cohesion and the different outcome criteria. The hypotheses are that sociometric choices relate positively to cohesion and performance, and correspondingly that sociometric cohesion is associated with group-level peer bonding and performance.

The data allowed for the matching of the survey findings with sociometric choices. The main assumption was that sociometry and group cohesion are related. The following sociometric measures were utilized for testing this assumption: (a) choice status as a friend, a fighter, a group member or a leader, (b) a pooled choice status in the platoon, (c) sociometric peer cohesion (i.e., ingroup friendship choices), and (d) sociometric vertical cohesion (i.e., ingroup leader choices in a squad).

According to the correlations between individual *choice status* and the other measures, the strongest effects of sociometry were on peer bonding (r = .3) and rated performance (r = .2). However, the correlations between friendship choices and the questionnaire measures were low or moderate but still indicated that people who were more popular and had a higher sociometric status in their group (a) had better performance ratings, (b) perceived more peer bonding in their group, (c) were sociable, (d) had friends, (e) were not hazed, (f) had a stronger emotional stability, and (g) had fewer doctor's appointments and exemptions from the duty than their less popular group counterparts. On the other hand, the conscripts voluntarily selected or named leaders who perceived stronger bonding with peers and their own leaders, bonded with the unit and the military as an institution, had better self-rated and instructor-rated performance, and had positive higher training motivation and more positive attitudes toward future refresher training. In addition, these leaders were sociable, had friends, and were not hazed in their group. The comparisons between *low- and high-status group members* further demonstrated that soldiers of low status perceived their peer cohesion as significantly lower than their high-status counterparts (M = 3.5 vs. 4.1; $p < .001$). Correspondingly, rated individual performance was significantly lower among the low-status soldiers than among their high-status peers (M = 3.5 vs. 3.8; $p < .01$).

On the group level of correlation between the aggregated measures, peer and leader bonding correlated with sociometric ingroup choices (i.e., the proportion of choices inside vs. outside the squad) on the .3 level. Moreover, the longer people were together (i.e., the period of service), the better were both sociometric peer and leader bonding. The ingroup-leader choices (meaning that soldiers named their own leader as the best among all the

platoon leaders) were related to several group-level aggregated measures such as primary-group cohesion, rated performance, attitudes toward refresher training, soldiers' well-being (mental and physical health), and promotions in the group (i.e., rank). Thus, the results showed that squads with high sociometric leader bonding had better self-rated primary-group cohesion and bonding with the unit, and also significantly better self-rated and instructor- rated performance levels. Interestingly, people in squads that tended not to choose their own group members as their leader were less sociable and in a poorer physical condition, had more absenteeism (more than 10 per cent of all service days), and more negative attitudes about refresher training in the future.

In sum, the results of this sociometric study supported the hypothesis that sociometric choices are positively related to cohesion and performance, although there were some qualifications:

a. On the individual level, choice status was mainly related to peer bonding, and not to the other cohesion components;
b. Individual choice status was virtually unrelated to the conscript's self-rated or self-assumed performance level, whereas it was related to performance evaluated by external professional raters (i.e., instructors in companies);
c. On the group level, both sociometric peer and vertical cohesion were related to the questionnaire-based aggregated primary-group cohesion scales;
d. Again on the group level, the relative number of leader choices made inside the group also had a bearing on the social, attitudinal, and behavioral criteria.

Overall, the results reported in this article validated the prior findings that different types of sociometric-cohesion components are related differently but positively to a wide range of criteria covering performance, attitudinal, and behavioral outcomes.

6.5 THE RELATION BETWEEN GROUP-LEVEL CHARACTERISTICS AND GROUP COHESION

The fifth article assesses the effects of different group-level characteristics on the cohesion components and on performance and attitudinal criteria. In other words, cohesion is considered from a group-level perspective. Specifically, the article describes platoon differences in cohesion, identifies the background variables that predict platoon cohesion, and determines the extent to which the degree of cohesion and other group-level characteristics relate to performance, attitudinal, and behavioral outcomes. The overall aim was to identify the group-level characteristics and cohesion in the platoons, and to determine the variables that affect and are affected by cohesion. On a

more general level, the objective was to provide information that might be useful in fostering and supporting primary- and secondary-group cohesion in platoon-sized groups.

Among other things, the platoons were compared in terms of their level of cohesion in the four cohesion components, specifically those with high and low levels of cohesion based on the mean values. The best two discriminators of week and strong primary-group cohesion were attitudes toward refresher training and expected group performance. In terms of performance criteria, the lowest group performance resulted when the level of cohesion was low, and the highest performance ratings coincided with strong organizational and institutional bonding in the platoons. Interestingly, every cohesion component was significantly related to the person's good conduct, which represented a behavioral criterion in the model. In particular, *institutional bonding* caused the largest difference in the mean scores for conduct. Overall, there was evidence of strong differences in the performance, attitudinal, and behavioral criteria due to the differences in the levels of cohesion in the platoons.

Primary-group cohesion did not support career intentions. On the other hand, the soldiers who had career intentions were not highly incorporated into their primary group, or were more independent of its influence and rated their primary-group cohesion lower than the others. These findings indicate that bonding among peers and with immediate leaders during conscript service may even create norms against a military career. Moreover, in platoons in which organizational and institutional bonding were at the lowest level the soldiers did not expect their group or platoon to perform effectively, they tried to avoid their daily duties, and they had negative attitudes towards their future refresher training. Consequently, the instructors rated these soldiers' performance low. In sum, the main results indicated that perceived cohesion in platoons (at the group level) was significantly related to the soldiers' expected and leader-rated personal and group performance, their attitudes toward military service and future refresher training, and their well-being during their conscript service. Overall, platoons with strong cohesion differed from others in terms of performance, training quality, secondary-group experiences, and attitudes toward refresher training.

6.6 THE STRUCTURE OF UNIT COHESION

This article gathers the diverse components of cohesion and their associates into a coherent structure in order to simplify and clarify the primary components of unit cohesion. In particular, it emphasizes the need to consider secondary groups in research designed to comprehensively examine the effects of cohesion. Basically, it identifies the main components of unit

cohesion, determines the major variables that predict cohesion in primary and secondary groups, and assesses the extent to which the degree of cohesion is related to performance and attitudinal outcomes at the end of conscript service.

In terms predictors of cohesion, primary-group cohesion was experienced by conscripts who had strong organizational bonds, felt himself sociable, had friends in the primary group, received good training information and feedback, had little difficulty obeying authority, experienced no or little hazing, and felt that the training was challenging and of high quality (R^2 = .53). Correspondingly, high secondary-group cohesion (i.e., organizational and institutional bonding) was perceived those with the capability to obey authorities, who perceived the training to be of high quality and challenging, had good peer bonds, and adjusted to life in the military (R^2 = .61).

Thus, primary-group cohesion (comprising peer and leader bonding) was strongly oriented toward personal relationships with peers and immediate leaders, thus sociability and friendship were among the best predictors. Secondary-group cohesion, on the other hand, was related to the quality of the relationships with higher-ranking superiors and the person's adjustment to the military. However, the experience of challenging, high-quality training with substantial feedback to trainees from the instructor predicted both primary- and secondary-group cohesion. These results suggest that there are three categories of cohesion predictors: (a) the capacity to interact well with peers and leaders (e.g., sociability and obeying authority), (b) social experiences (e.g., friendship, hazing, and adjustment), and (c) organizational experiences (e.g., the quality of training and the amount of feedback).

Interestingly, experiences prior to military service were not the strongest predictors. The best two pre-service predictors of primary-group cohesion were adjustment in civilian schooling and initial institutional bonding (just before military service), but they predicted only 11 percent of the variance. The same pre-service predictors were also the best indicators of secondary-group cohesion at the end of the service period (R^2 = .24). The limited strength of these predictors implies that previous civilian experiences do not highly predict cohesion, which develops mainly during military service and especially through experiences with peers, leaders, and training.

Among the individual background items the best predictors were:

1. The results of a leadership and social-skills aptitude test.
2. The person's request for a specific service branch, duty, and/or service period.
3. A significant other's attitude towards the military service.
4. Learning difficulties at school.
5. The results of a 12-minute running test.

Together, they predicted 16 percent of the variance in primary-group cohesion. Many of the same background items also predicted organizational and institutional bonding, although in a different order:

1. Requesting a branch, duty, and/or service period.
2. The aptitude test.
3. A significant other's attitude towards the military service.
4. Attitude against drugs.
5. Parental attitudes toward the military service. Together they explained 19 percent of the variance.

Many of the background items did not predict cohesion: age, scores on an intelligence test, educational level, alcohol consumption, frequency of exercising, having a criminal record, school grade-point average, and marital status. These findings are interesting because many background variables, such as intelligence and bad habits in civilian life, are often used in the research design. Overall, the results indicate that background items covering social skills, previous experiences in groups and organizations, and the attitudes of significant others in civilian life are of some use in predicting perceived cohesion components.

Regression analyses were utilized to find the relative strengths of primary- and secondary-group cohesion in explaining the outcome criteria. The results of the analyses imply that both primary- and secondary-group cohesion were related to the three performance criteria, although the former was somewhat more strongly related to expected group performance than the latter. On the other hand, secondary-group cohesion was more strongly related to expected personal performance and the individual performance ratings. The findings with respect to primary-group cohesion were similar in relative strength to those reported in various meta-analyses (e.g., Oliver et al., 1999), whereas the results concerning secondary-group cohesion are new to the literature.

Although both cohesion types correlated positively and significantly ($p < .001$) with the attitudinal and behavioral criteria, the regression models showed a much stronger association with secondary-group cohesion. Specifically, secondary-group cohesion explained the variation in military career intentions, attitudes toward participating in refresher training, and seeking exemption from duty without good physical reason to a more significant degree.

6.7 THE ESSENCE OF THE COHESION COMPONENTS AND THEIR IMPACT ON THE KEY CRITERIA

6.7.1 PREDICTORS OF THE COMPONENTS

The above results presented describe different components of cohesion, their antecedents and associates and their relative effects on outcomes. Given the aim of this study to create a unified construct, (a) the main components of

unit cohesion, (b) the key predictors of each component, and (c) the relative impact of the components on the criteria are discussed next in the light of the primary research questions. The main conclusions of the six articles are summarized below in comparative terms give that the same sample was used throughout the analysis (n = 1,534).

Four Types of Bonding. The means were almost the same for the different component scales (see Table 2). Generally, cohesion (e.g., peer and institutional bonding) decreased over time, which is also in congruence with previous research (e.g., Siebold, 1996). The different components were moderately intercorrelated (r = .36 - .53; see Table 6). The highest correlation was between peer and organizational bonding, which is consistent with Yagil's (1995) findings from research on Israeli platoons and units.

Table 6. *Correlations among the Cohesion Components*

Scales	*M*	*SD*	α	1	2	3	4
Peer Bonding	3.68	.74	.86	1			
Leader Bonding	3.68	.75	.88	.45	1		
Organizational Bonding	3.70	.77	.76	.53	.47	1	
Institutional Bonding	3.76	.92	.81	.44	.36	.49	1

Note. n = 1,534, p < .001.

Multiple regression analyses were utilized to determine the variables that explained most of the variance in the different components. Strong *Peer Bonding* (PB) occurred was among people who were sociable, had friends in the group, bonded strongly with the organization and the platoon leaders, found the training challenging and experienced little hazing (see Table 7). Changes in the values of the *Institutional Bonding* scale were not associated with changes in *Peer Bonding* (*beta* of .03). Interestingly, *Military Adjustment* was slightly negatively related to *Peer Bonding* in terms of *beta* values (the slope) in that those who experienced higher levels of adjustment (perhaps were more "gung ho") tended to bond somewhat less strongly with their peers (note that r = .39 was positive whereas *beta* was negative). On the other hand, the general finding that adjustment correlated with peer bonding is compatible with the results of previous studies indicating that social support is a buffering factor against stress and, conversely, a promoter of the adjustment process (Gal et al., 1987; Griffith, 1989; Griffith & Vaitkus, 1999).

Table 7. *Predictors of Peer Bonding (R = .75; Adj. R² = .56)*

Predictor scales	*r*	*Beta*	*p*
Sociability	.55	.25	***
Friends	.59	.32	***
Experienced Hazing	-.38	-.12	***
Leader Bonding	.45	.14	***
Obeying Authority	.39	.01	.821
Organizational Bonding	.53	.17	***
Training Quality and Challenges	.45	.10	***
Military Adjustment	.39	-.09	***
Institutional Bonding	.44	.03	.185

Note. n = 1,532. For r, the individual correlations of the scales with *Peer Bonding* were all significant at $p < .001$.

Better *Leader Bonding* (LB) was experienced among those who bonded well with their peers and the organization and were willing to obey authority (Table 8). The training scale was more strongly related to bonding with leaders than with peers. Interestingly, institutional bonding was not a strong predictor of leader bonding. The leader-bonding measure incorporated perceptions about different kinds of leaders (i.e., both squad and platoon leaders), which may explain why there was less explained variance (LB model's R^2 = .33 vs. PB model's R^2 = .56). Notably, organizational bonding explained both peer and leader bonding to a significantly high degree.

Table 8. *Predictors of Leader Bonding (R = .58; Adj. R² = .33)*

Predictor scales	*r*	*Beta*	*p*
Peer Bonding	.45	.22	***
Sociability	.32	-.02	.597
Friends	.27	-.03	.294
Experienced Hazing	-.21	-.01	.562
Obeying Authority	.41	.16	***
Organizational Bonding	.47	.16	***
Training Quality and Challenges	.47	.20	***
Military Adjustment	.34	.05	.147
Institutional Bonding	.36	-.01	.826

Note. n = 1,532. For r, the individual correlations of the scales with *Leader Bonding* were all significant at $p <.001$.

Organizational Bonding (OB) had the highest correlation and slope with the quality of unit training (Table 9). It would seem that organizational bonding is the linch-pin component of cohesion in that every other component has a significant individual correlation and beta predicting it. Interestingly, both friendship (which was highly predictive of peer bonding)

and obedience (which was strongly related to leader bonding) also had significant direct correlations with organizational bonding.

Table 9. *Predictors of Organizational Bonding (R = .73; Adj. R² = .53)*

Predictor scales	*r*	Beta	*p*
Peer Bonding	.53	.19	***
Sociability	.37	-.04	.163
Friends	.38	.08	***
Experienced Hazing	-.21	-.03	.127
Leader Bonding	.47	.11	***
Obeying Authority	.45	.08	***
Training Quality and Challenges	.64	.39	***
Military Adjustment	.40	.05	*
Institutional Bonding	.49	.12	***

Note. n = 1,532. For r, the individual correlations of the scales with *Organizational Bonding* were all significant at $p < .001$.

The findings listed in Table 10 (the *Institutional Bonding* model) suggest that conscripts' experiences of hazing, adjustment to the military, training experiences, and relations with authorities form the basis of their commitment to military service. Overall, adjustment to the military correlated more strongly with institutional bonding than with the other cohesion components. In contrast, peer bonding was based more on primary-group relations whereas institutional bonding was based on experiences in the organization in general. Peer and leader bonding did not have significant *beta*s in the predictor model. Of further interest is the fact that training experiences were included in every cohesion-component predictor model. Moreover, the components were interrelated such that the closest levels of cohesion tended to be the best predictors, with organizational bonding (by PB, IB, and LB) as the linch-pin.

Table 10. *Predictors of Institutional Bonding (R = .71; Adj. R² = .49)*

Predictor scales	*r*	Beta	*p*
Peer Bonding	.44	.04	.185
Sociability	.47	.02	.523
Friends	.34	.07	**
Experienced Hazing	-.32	-.07	***
Leader Bonding	.36	-.01	.826
Obeying Authority	.59	.29	***
Organizational Bonding	.49	.13	***
Training Quality and Challenges	.45	.12	***
Institutional Bonding	.56	.22	***

Note. n = 1,532. For r, the individual correlations of the scales with *Institutional Bonding* were all significant at $p < .001$.

6.7.2 COHESION COMPONENTS AND CRITERIA

According to the correlations, every cohesion component was positively related to the ten outcomes (see Table 11). Moreover, several multiple regression analyses were conducted in order to find out how the bonding scales explained these criterion scales and items in relative terms. The R^2 in Table 11 indicates the extent to which the four components explained the variance of the criterion.

Peer and *Organizational Bonding* were the best predictors of *Expected Group Performance* (as in Yagil, 1995), although every cohesion component explained it to a significant (independent) extent (at the $p < .05$ level). The predictive significance of the PB and OB scales was also evident in another analysis in which all the usable predictors were included, and PB and OB were still the two best predictors of group performance. This extended model also included the training and LB scales (Adj. $R^2 = .29$).

Table 11. *Correlations Between the Bonding Scales and the Criterion Scales*

Scales	Peer Bonding	Leader Bonding	Organi-zational Bonding	Institu-tional Bonding	R^2
Expected Group Performance ($M = 3.49$; $SD = 1.06$)	.42	.37	.45	.32	.27
Expected Personal Performance ($M = 3.54$; $SD = .77$)	.41	.43	.50	.44	.34
Rated Individual Performance ($M = 3.64$; $SD = .75$)	.29	.27	.29	.30	.14
Appraisal of Training ($M = 3.12$; $SD = .81$)	.41	.36	.56	.48	.38
Personal Growth ($M = 3.40$; $SD = .86$)	.45	.33	.53	.57	.43
Career Intentions ($M = 2.07$; $SD = 1.11$)	.15	.10	.26	.30	.11
Refresher Training Intentions ($M = 2.6$; $SD = 1.46$)	.30	.24	.35	.45	.22
Attitude Towards National Defense ($M = 4.26$; $SD = 1.03$)	.20	.19	.25	.37	.14
Exemption Attitude ($M = 4.01$; $SD = 1.26$)	-.19	-.19	-.24	-.36	-.13
Emotional Stability ($M = 4.21$; $SD = .82$)	.42	.28	.29	.45	.26

Note. $n = 1{,}534$, $p < .001$. R^2 = the adjusted R^2 for the multiple regression of the bonding scales on each criterion.

The predictive value of the four cohesion components was more even in the case of *Expected Personal Performance*. Still, OB was the best predictor, explaining 25 percent of the variance. The three best predictors in the extended model were organizational bonding, training quality and challenges, and institutional bonding (Adj. R^2 = .37). All four bonding scales predicted *Rated Individual Performance* (by instructors at the end of military service), although explaining only 14 percent of the variance. The best predictors in the extended model were physical health, organizational bonding, obedience, and quality of training (Adj. R^2 = .17). Peer and leader bonding were also included, but added little to the explained variance (Adj. R^2 = 19).

Table 12. *Multiple Regression of the Bonding Scales on Performance*

Expected Group Performance (Adj. R^2 = .27)	*r*	*Beta*	*p*
Peer Bonding	.43	.21	***
Leader Bonding	.37	.14	***
Organizational Bonding	.45	.24	***
Institutional Bonding	.32	.06	*
Expected Personal Performance (Adj. R^2 = .34)	*r*	*Beta*	*p*
Peer Bonding	.41	.11	***
Leader Bonding	.43	.19	***
Organizational Bonding	.50	.25	***
Institutional Bonding	.44	.20	***
Rated Individual Performance (Adj. R^2 = .14)	*r*	*Beta*	*p*
Peer Bonding	.29	.12	***
Leader Bonding	.27	.11	***
Organizational Bonding	.29	.09	**
Institutional Bonding	.30	.16	***

Note. n = 1,532. For r, the zero-order correlations of the criteria with *Peer*, *Leader*, *Organizational*, and *Institutional Bonding* were all significant at p <.001.

The main finding with regard to the set of performance criteria was that all four cohesion components had an impact on performance, individually and in combination. A new finding was the significance of secondary-group cohesion in assessing performance in the military. Of the four components, organizational bonding was the most consistent predictor of expected group and personal performance. Conversely, good expected or rated performance may also increase bonding, in the secondary group as well as in the primary group. The conscripts' appraisal of their training was mainly attributable to organizational and institutional bonding, although all four cohesion components had an impact. When all the scales in the expanded model were included, organizational and institutional bonding were still the two most powerful predictors. *Personal Growth* refers to whether the conscript learned something meaningful about him/herself that could be useful in

adulthood, and was best predicted by secondary-group bonding (OB + IB). The same result was found in the extended model (Adj. R^2 = .43).

Three criteria were used to assess military orientation among the conscripts: *Career Intentions*, *Refresher Training Intentions*, and *Attitude Towards National Defense*. The commonality among these criteria was that they all correlated most highly with secondary-group cohesion, especially institutional bonding. In the extended models, institutional bonding, training experiences, and leader bonding were the best predictors of *Career Intentions* (note that the leader-bonding scale had a negative *beta* value) (Adj. R^2 = .19), whereas institutional bonding, training experiences, and organizational bonding predicted *Refresher Training Intentions* (Adj. R^2 = .27). The extended model of *Attitude Towards National Defense* included only two scales: institutional bonding, and training quality and challenges (Adj. R^2 = .15).

Table 13. *Multiple Regression of the Bonding Scales on the Attitudinal Criteria*

Appraisal of Training Provided (Adj. R^2 = .38)	*r*	*Beta*	*p*
Peer Bonding	.41	.09	***
Leader Bonding	.36	.07	**
Organizational Bonding	.56	.36	***
Institutional Bonding	.48	.25	***
Predictors of Personal Growth (Adj. R^2 = .43)	*r*	*Beta*	*p*
Peer Bonding	.45	.15	***
Leader Bonding	.33	.01	.90
Organizational Bonding	.53	.27	***
Institutional Bonding	.57	.38	***
Career Intentions (Adj. R^2 = .11)	*r*	*Beta*	*p*
Peer Bonding	.15	-.03	.40
Leader Bonding	.10	-.07	*
Organizational Bonding	.26	.19	***
Institutional Bonding	.30	.24	***
Refresher Training Intentions (Adj. R^2 = .22)	*r*	*Beta*	*p*
Peer Bonding	.30	.07	*
Leader Bonding	.24	.02	.57
Organizational Bonding	.35	.14	***
Institutional Bonding	.45	.34	***
Attitude Towards National Defense (Adj. R^2 = .14)	*r*	*Beta*	*p*
Peer Bonding	.20	.01	.81
Leader Bonding	.19	.04	.16
Organizational Bonding	.25	.07	*
Institutional Bonding	.37	.32	***

Table 13 (continued)

Exemption Attitude (Adj. R^2 = .13)	*r*	*Beta*	*p*
Peer Bonding	.19	-.01	.84
Leader Bonding	.19	.05	.11
Organizational Bonding	.24	.07	*
Institutional Bonding	.36	.31	***
*Emotional Stability (*Adj. R^2 = .27)	*r*	*Beta*	*p*
Peer Bonding	.42	.27	***
Leader Bonding	.28	.06	*
Organizational Bonding	.29	-.05	.11
Institutional Bonding	.45	.33	***

Note. n = 1,532. For *r*, the zero-order correlations of the criteria with *Peer*, *Leader*, *Organizational*, and *Institutional Bonding* were all significant at $p < .001$.

The *Exemption Attitude* scale included items such as "*I have applied for exemption from a field exercise even though I was not ill*." It appears from the results that the conscripts tended to seek exemption if they had low institutional bonding. In the extended model, institutional bonding, experiences of hazing, obedience, and training experiences were the four best predictors of exemption seeking (when there was no medical reason) (Adj. R^2 = .18). Thus, low commitment, poor experiences in training, and difficulties with peers or leaders in the primary group were related to the intentional avoidance of training and unpleasant situations.

Emotional Stability comprised items related to psychological well-being such as, "I often feel depressed", "I have had suicidal thoughts", and "I have often felt that life is not worth living." Among the cohesion components, institutional and peer bonding turned out to be the best predictors. As mentioned earlier, the buffering effects of peer support, and of peer bonding in general, are well-known (e.g., Griffith, 1989, 2002; Griffith & Vaitkus, 1999; Ingraham & Manning, 1981). On the other hand, the strong positive association between soldiers' *Emotional Stability* and their bonding with the institution has been neglected and should be taken into account in future research. In the extended model, (a) a personal capacity for social relations, (b) hazing experiences in the primary group, (c) the capacity to respond to authority, and (d) commitment to military service predicted perceptions of *Emotional Stability* (Adj. R^2 = .48).

6.7.3 INCONSISTENCY IN THE COHESION COMPONENTS

The aim in this sub-section is to find out how inconsistent views of the cohesion components affected the criteria. The scale score of each component was therefore divided into three levels based on the mean values: low (M = 1.0–3.2), moderate (M = 3.21–3.99) or high bonding (M = 4.0–

5.0). Each component pair was then examined separately (PB+LB, PB+OB, PB+IB, LB+OB, LB+IB, and OB+IB). The different possible response combinations (e.g., low PB + low LB, low PB + moderate LB; low PB + high LB; etc.) were also examined within each pair. Finally, Scheffe's tests were used in order to assess the effect of each combination on the ten criterion measures. Table 14 shows the mean values of the measures in the low group (i.e., 1) for on one of the paired components and in the high group (i.e., 3) for the other, and vice versa. The objective was to see the impact of the cohesion components on each criterion when the service members held relatively contrasting views on the two components in question.

Table 14 summarizes the general findings:

1. The differences between the criterion means in the low-high and high-low combinations of the component pairs were non-significant for all three performance criteria. There was no specific component that was crucially more important than the others.
2. When inconsistent views on Peer and Leader Bonding were compared (low PB + high LB vs. high PB + low LB) the criterion means were not significantly different, except for Emotional Stability in which high Peer Bonding appeared to be more influential than high Leader Bonding (see the last row in the first column). This indicates that there were no differences in most criteria when the soldiers had good relationships with their peers, but not so good with their leaders, or vice versa.
3. Inconsistencies in secondary-group cohesion (either OB or IB in the pair) had a more powerful influence on the criteria than inconsistency in the primary-group components (the square in the middle of the table).
4. In the OB+IB column, which contrasts the secondary-group cohesion components, high Institutional Bonding has higher means for many attitudinal and behavioral criteria. This indicates that bonding with the institution had more influence on the criteria than organizational bonding, and is another way of reporting the same finding from the multiple regression analyses discussed in the previous section.
5. Of special interest is the general finding that when one of the primary-group-cohesion components was compared with a secondary-group component in terms of attitudinal or behavioral (non-performance) criteria, the latter had the dominant influence (the square area in the table). For instance, high Leader Bonding combined with low Institutional Bonding gave the lowest mean in Career Intentions. Similarly, when there was high Peer Bonding and low Institutional Bonding the Career Intentions criterion was lower than in the opposite low-high condition. According to other analyses not reported in Table 14, high primary-group cohesion combined with low Institutional Bonding resulted in even lower Career Intentions and a greater tendency to seek exemption than when both components were low.

Table 14. *Criteria Means Based on Inconsistency in the Cohesion Components*

Criteria	Pairs	PB+LB	PB+OB	PB+IB	LB+OB	LB+IB	OB+IB
Group Performance	1+3	3.6	3.7	3.6	3.8	3.6	3.4
(*M* = 3.49; *SD* = 1.06)	3+1	3.7	3.5	3.6	3.4	3.5	3.6
		PB (ns.)	OB (ns.)	PB (ns.)	OB (ns.)	IB (ns.)	OB (ns.)
Personal Performance	1+3	3.7	3.7	3.7	3.7	3.7	3.7
(*M* = 3.54; *SD* = .77)	3+1	3.6	3.5	3.5	3.5	3.5	3.6
		LB (ns.)	OB (ns.)	IB (ns.)	OB (ns.)	IB (ns.)	IB (ns.)
Individual Performance	1+3	3.7	3.7	3.7	3.8	3.8	3.8
(*M* = 3.64; *SD* = .75)	3+1	3.5	3.7	3.4	3.7	3.5	3.6
		LB (ns.)	PB (ns.)	IB (ns.)	OB (ns.)	IB (ns.)	IB (ns.)
Appraisal of Training	1+3	3.3	3.4	3.4	3.4	3.3	3.1
(*M* = 3.12; *SD* = .81)	3+1	3.2	2.9	2.9	2.7	2.9	3.1
		LB (ns.)	OB (ns.)	**IB** (sig.)	**OB** (sig.)	**IB** (sig.)	IB (ns.)
Personal Growth	1+3	3.4	3.7	3.6	3.7	3.8	3.6
(*M* = 3.40; *SD* = .86)	3+1	3.5	3.4	3.1	3.1	3.0	3.4
		PB (ns.)	**OB** (sig.)	**IB** (sig.)	**OB** (sig.)	**IB** (sig.)	IB (ns.)
Career Intentions	1+3	2.1	2.7	2.6	2.5	2.7	2.1
(*M* = 2.07; *SD* = 1.11)	3+1	2.2	1.8	1.7	1.6	1.5	1.8
		PB (ns.)	**OB** (sig.)	**IB** (sig.)	**OB** (sig.)	**IB** (sig.)	IB (ns.)
Refresher training	1+3	2.7	3.2	3.5	2.9	3.5	3.1
(*M* = 2.56; *SD* = 1.46)	3+1	2.8	2.4	1.9	2.0	1.8	2.2
		PB (ns.)	**OB** (sig.)	**IB** (sig.)	**OB** (sig.)	**IB** (sig.)	**IB** (sig.)
Attitude towards	1+3	4.4	4.6	4.7	4.5	4.5	4.5
National Defense	3+1	4.2	4.2	3.9	4.1	3.9	3.9
(*M* = 4.26; *SD* = 1.03)		LB (ns.)	**OB** (sig.)	**IB** (sig.)	OB (ns.)	**IB** (sig.)	**IB** (sig.)
Exemption Attitude	1+3	4.3	4.3	4.4	4.1	4.5	4.4
(*M* = 4.01; *SD* = 1.26)	3+1	4.1	4.0	3.4	4.0	3.5	3.7
		LB (ns.)	OB (ns.)	**IB** (sig.)	OB (ns.)	**IB** (sig.)	**IB** (sig.)
Emotional Stability	1+3	4.0	4.2	4.2	4.5	4.5	4.5
(*M* = 4.21; *SD* = .82)	3+1	4.4	4.4	4.3	4.3	4.1	4.1
		PB (sig.)	PB (ns.)	PB (ns.)	OB (ns.)	**IB** (sig.)	**IB** (sig.)

Note. n = from 119 to 162 depending on the pair combinations. The significance level was .05. Pairs (1–3 or 3–1) means that the responses, in which first component was rated low and the second one high, or vice versa, were compared. The abbreviation (e.g., OB (sig.)) shows that the cohesion component in question caused a significantly higher criterion mean if it was assessed as high in the cohesion pair.

7 DISCUSSION

This study relates to a series of papers, reports, and articles produced by the author at the University of Helsinki, the Finnish National Defence University, the University of Haifa, and the U.S. Army Research Institute for the Behavioral and Social Sciences. The results reported in the articles provide evidence of four levels of bonding, the different antecedents of the components of cohesion, and the variation in the criteria for each component.

The study explored interpersonal relationships in terms of sociometric choices and their relations to the respective cohesion components. The inconsistencies in the components exemplified the mixture of influences of diverse bonding levels on criteria. In all, the aim of the series of articles was to contribute to the research on unit cohesion by introducing a model that takes into account the primary foci of bonding and their impact. The study plan was formulated in 2000. The consequent design of the measures was based on the measures used in previous studies, the military need to collect data, and the available civilian and military records. The data were collected in 2001 and 2002. At that time, the general understanding was that cohesion included three main component levels: peer/horizontal, leader-subordinate/vertical, and organizational bonding. In fact, the model was discovered during the process of the study (e.g., Salo & Siebold, 2005; Siebold, 2007) through making analyses and comparing findings with those in literature, and could be considered the main finding of the overall research project.

7.1 MAIN RESULTS

The first article examines the degree of cohesion and its change over time, the relevant predictors of peer cohesion, and the relationship between peer cohesion and the group members' attitudes, behavior and performance, including identification of the criteria on which peer cohesion had its strongest impact. There appeared to be a high level of peer cohesion during the basic training period, but then a decline over time. Thus, highly structured basic training, the undifferentiated situation of the group members and their coordinated actions supported the build-up of strong social relationships, and consequently of peer cohesion. The social and task structures of the group developed over time (evident in the less structured conduct, the group members' differentiated positions and status, and their varying responsibilities in the unit activities, for example) which resulted in a less cohesive structure. Moreover, as a consequence of cumulative annoyance

and negative experiences, a few group members attempted to isolate themselves or even refused to take part in the informal activities involving other group members, which might have further affected peer-group relationships. Rank-and-file soldiers may perceive only a marginal utility of military service and of their role as part of the group, whereas squad and platoon leaders monopolize the attention of the instructors and commanders. The results supported this supposition – the rank and file soldiers had significantly worse attitudes, poorer performance, and more disruptive behavior than their conscript leaders, and over time these differences only widened. Unfortunately, it seems that it is easier to alienate than to integrate group members in group processes.

The first article also describes the main predictors of peer cohesion. By and large, individual (a) sociability, (b) primary-group experiences, and (c) perceptions of the secondary group determine the degree of cohesion. In other words, a conscript's (a) capacity to integrate him- or herself into a cohesive group (sociability), (b) experienced leadership and peer support (as primary-group experiences), and (c) a willingness and the ability to adjust and adapt to the secondary group and its organizational and institutional demands and experiences formulate attachment to membership of the group. In sum, the results indicate that there are three categories of variables affecting cohesion at any given time. The first category consists of (a) the pertinent personality traits and attitudes among the group member that may affect the ability to bond with others in the group. The second category comprises (b) variables describing the quality of primary-group processes in the group, and (c) the third one reflects secondary-group experiences and bonding, including training quality, organizational commitment, and climate (i.e., atmosphere and unit pride). Peer cohesion does not seem to be substantially related to the demographic characteristics or backgrounds of the group members, indicating that, despite their background and earlier experiences, everyone has a chance to become an integrated part of the group if the variables mentioned above are on an adequate level.

The focus in the second article is on leader-subordinate bonding and the linking-pin function of the leaders. The premise is that the main function of the group leader is to unite his or her followers with the organization by creating identification with the unit and the larger institution. He or she smoothes the clashes between the informal primary group and the formal secondary group. As a consequence, the norms of the primary group no longer limit the performance of the secondary group (e.g., the unit), and both elements serve the shared organizational goals.

The second article reports results suggesting that the stronger the leader-subordinate bonding, the more favorable are attitudes, behavior, and performance in organization. Thus, the group members who identified with their leaders had had high-quality training, had better mental and physical health, and perceived better self-efficacy and collective efficacy in performance. Moreover, leader-subordinate bonding (LB) was reflected in

better performance ratings and lower levels of deviant behavior (e.g., reprimands and penalties) during the membership of the unit.

The article further emphasizes the importance of a strong *chain of bonding* with the different levels of leaders. In particular, a clear break between bonding with the primary-group leader and the secondary-group leader (e.g., between the squad leader vs. the career officer) had a harmful impact on behavior and performance. These results relate specifically to the organizationally adverse norms that may exist in groups in which the leader is not linked to the next level of the organization and its leaders. For example in the second article, the combination of good immediate LB with bad distant LB coincided with low acceptance of official authority, weak organizational cohesion, and thoughts of leaving the service. Overall, the results support the linking-pin function of the leader (Likert, 1961) and the importance of strong vertical cohesion on all relevant levels of leadership (Alderks, 1992).

The third article identifies the cohesion-related variables that predict group and personal performance, and the extent to which the degree of cohesion and training relate to performance both separately and together. In terms of unit cohesion, the notable finding was that all cohesion components explained perceptions of both group and personal performance. Overall, peer cohesion, organizational cohesion, perceived quality of training, and current physical fitness among the group members were the best predictors of performance perceptions.

Moreover, the soldiers' perceptions of their training were not directly related to their group and personal performance. On the other hand, training may have a strong indirect influence through increasing the level of cohesion. Thus, organizers of training programs should recognize their dual impact on performance and cohesion, which further improves group and personal performance. The results suggest to:

- Improve teamwork and task coordination among peers (cf. peer cohesion);
- Appoint goal-achieving leaders who will coach their subordinates and keep them informed (cf. leader-subordinate cohesion);
- On the organization level make a stronger effort to provide positive experiences and opportunities for learning, making the organization something to be proud of (cf. organizational cohesion);
- Ensure that the institutional climate fosters commitment and achievement (cf. institutional cohesion).

It thus seems that performance measures relate differently to training and to cohesion. For example, the group members' ratings of their performance were related to cohesion but not to training perceptions, and performance was largely attributable to obedience, mental and physical aptitude, health, and vertical cohesion. On the other hand, perceptions of personal performance (i.e., self-efficacy) related more to commitment and training, with some influence from peer cohesion and physical health. Moreover, group performance perceptions (i.e., collective efficacy) related to all four

bonding levels but only to a few training scales. Interestingly, predictions of group performance based on cohesion components were more accurate than those based on training-related variables. These results further support the consideration of unit cohesion in training programs in order to maximize group performance.

In conclusion, the relationship between different cohesion components and performance varies as a function of the type of performance assessed. Peer bonding relates closely to group performance and leader-subordinate bonding explains both personal and group performance. Organizational bonding correlates most strongly with both training and performance, and is perhaps the key variable in terms of explaining group performance, whereas institutional bonding is the best predictor of personal performance. The main implication is that given their diverse but positive effects on personal and group performance high-quality leadership, management, training, and education should support bonding on every level.

The fourth article takes a different approach to assessing unit cohesion in focusing on the associations between sociometric status, sociometric cohesion and perceived cohesion, and their respective effects on criteria such as performance and attitudes. It is suggested that an individual's peer status relates positively to his or her perceived levels of peer bonding and performance, whereas leadership status in the group relates positively to all cohesion components, perceived and rated performance, and attitudes toward the organization.

On the group level of analysis, both *sociometric* peer and leader cohesion were associated with *survey-measured* peer and leader cohesion in the group. Moreover, sociometric leader cohesion related to the means of the social, attitudinal, and behavioral measures on the group level. Perhaps the most alarming finding was that low *sociometric leader cohesiveness* (i.e., few within-group leader nominations) indicated that the group lacked sufficient integration, resulting in poor cohesion and the group members' low-rated performance, negative attitudes, and high absenteeism. In other words, if the formal leader is not accepted and appreciated and the subordinates identify with an informal leader, there are several negative consequences for the group in terms of declining attitudes, weakening performance, and increasingly deviant behavior.

The fifth article describes platoon differences in cohesion, identifies the background variables that predict platoon cohesion, and examines the associations between group cohesion, performance, and selected attitudinal and behavioral outcomes. In terms of background variables, the correlations between the demographic and background variables and the cohesion components were minimal. The most notable exception was the correlation between the mean level of social skills among the platoon members and peer cohesion (r = .69), suggesting that the personal abilities of group members may support social activities and facilitate the creation of strong peer cohesion. Given that the overall impact of the background variables on group

cohesion was low, the main conclusion is that cohesion is mostly attributable to the experiences of the group members and their leaders rather than being a product of individual background characteristics.

The fifth article demonstrates that cohesion components correlate significantly and strongly with performance criteria on the platoon level. The results still held when platoon differences (reflected in the mean rank among the members, length of service, aptitude, and education) were controlled for but in a more select pattern: (a) peer cohesion was associated with expected group performance in combat; (b) vertical cohesion related mostly to expected personal performance in combat, and (c) organizational cohesion related strongly to both of the above, and to the mean of the rated performance measures. Moreover, whereas the other components related consistently to the performance criteria, (d) institutional bonding associated strongly with attitudinal and behavioral outcomes. The implication here is that institutional bonding positively affects the formation of the attitudinal basis that group members need if they are to become actively engaged in their training, and upon which the other components of cohesion can be developed.

The sixth article further develops the construct of unit cohesion and how it relates to the various criteria. Specifically, it identifies the main components of cohesion, determines the predictors of primary- and secondary-group cohesion, and assesses the extent to which the degree of cohesion is associated with performance and attitudinal outcomes. According to the findings, there are two main constructs of unit cohesion at the primary- and secondary group levels, and they could be of use in predicting or explaining variation in performance and desired outcome criteria. Primary-group cohesion seems to relate more strongly to small-group performance, whereas secondary-group cohesion affects individual performance and attitudes more.

In the broadest sense, the article clarifies past inconsistencies in the association between broadly-measured or single-component cohesion and various criteria. Although the importance of primary-group cohesion in training and combat is well-known, only a few studies have acknowledged the significance of secondary-group cohesion in education, training, work, and organizational membership. This is perhaps due to unawareness of the impact of secondary-group cohesion, or a lack of willingness to focus on the small details of primary-group experiences. Nonetheless, these results strongly suggest that attention should also to be paid to secondary-group cohesion in order to effectively support the developmental process of groups in an organization.

As a general conclusion of the research, various factors influence the cohesion components and their development: 1) personal factors such as social capacity and the ability to have normal relations with authority, 2) primary-group experiences (i.e., the quality of the relationships in the group), and 3) secondary-group experiences (i.e., experiences in unit

activities). In terms of the association between cohesion and the outcome criteria, past research has shown that peer and leader-subordinate bonding are positively related to performance, which is further supported by this study. However, when all four cohesion components are taken into account, it may be that peer and leader-subordinate bonding (as the primary-group components) are not the best or sole predictors of the behavioral and attitudinal outcomes. On the contrary, it is suggested that secondary-group cohesion is a crucial element in explaining various criteria, and the relationship between institutional bonding and attitudinal criteria is particularly notable. Therefore, all cohesion components are needed in order to explain group and personal performance. Moreover, there are cases of organizational membership in which secondary-group cohesion is even more important than primary-group cohesion in terms of understanding the performance, behavior, and attitudes of members.

In sum, the following new findings should be highlighted:

1. The constituent parts of unit cohesion form through peer bonding, leader-subordinate bonding, organizational bonding, and institutional bonding, which together influence social integration and bind the members to the organization.
2. Each constituent component contributes to the overall pattern of cohesion, forming a unique set of uniting factors.
3. Each cohesion component correlates positively and significantly with the performance, training, and attitudinal outcomes.
4. Secondary-group cohesion, in other words organizational and institutional cohesion, is at least as important a factor in predicting the attitudinal and behavioral criteria as primary-group cohesion.

7.2 METHODOLOGICAL LIMITATIONS

In general, the findings of this study on cohesion seem to be similar to findings based on other samples of enlisted personnel and organizations from other Western countries. This consistency suggests that the results could be generalized across similar organizations in which group performance is a cornerstone for unit effectiveness. Despite the surface consistency, however, there are conditions that narrow the generalizability. For example, the sociometric analysis revealed extreme variability between integration in terms of men and women. When the group members named someone they would like as a fellow combatant in wartime, no-one named a woman. Thus, no woman chose a female as a fellow combatant although they may have chosen a woman as their best friend. These results imply the separation of roles between men and women in the platoon. However, given that there were *few women in the sample*, the findings cannot be generalized to explain whether and how women develop social and task cohesion in

primary and secondary groups. There is thus a need to conduct more research in mixed-sex groups as opposed to only male or female groups.

The respondents comprising the sample were part of a *total institution*, which might affect secondary-group cohesion in particular, and its impact on other measures. Therefore, not all the results are generalizable to other types of groups that form voluntarily. Such groups do not necessarily have an appointed, formal leader, and an informal leader may stand out. Moreover, secondary-group cohesion may not play a large role in social groups if there is no larger organization or institution arranging the meetings or influencing what takes place. Consequently, future research should consider situations in different groups and organizations in schools, involved in sports, or at work, for example, where people integrate into the group but only partly in terms of the four cohesion components.

There are also other limitations that need to be mentioned. Despite the fact that the *changes in group cohesion and in its prediction were assessed over time*, the bulk of the analysis relied on measures taken at the end of military service by means of two surveys and a sociometric questionnaire. In other words, the data was not comprehensive enough to allow analysis of the long-term changes in the four cohesion components and in how they related to other measures. In particular, neither the measures nor their analysis gave a full picture of causality between the cohesion components and the criteria, although they identified the primary associations. Moreover, the higher correlations among the variables measured simultaneously with the cohesion components were, to some extent, attributable to *common method bias* rather than method-independent construct correlation. Researchers therefore need to match their criteria of interest with the most appropriate set of cohesion predictors. Further studies could complement this one by focusing on a certain unit, and on situational changes over time and their effect on cohesion in a situation that can be controlled. Given the nature of causation, dynamic group processes should be examined in the context of primary- and secondary-group cohesion, training and development, and performance and learning in groups.

In terms of *questionnaire design*, the items on peer cohesion were located in separate questionnaires in order to reduce scale multicollinearity and to control for individual answering patterns that could have caused bias in the responses. The result was that the items loaded onto separate subfactors in addition to the mutual loadings. The scattered scales were still generally reliable ($\alpha > .80$) according to the reliability tests (Nunnally, 1967), but the procedure was still more troublesome than helpful for the author. It would therefore be beneficial in future research to measure the two domains and four levels of cohesion by forming eight separate scales. These individual factors could be tested by means of confirmatory factor analysis and Bayesian dependency modeling in order to refine the measures and identify the dependences between the items. Bayesian modeling was of practical use in this study in particular for refining the construction of the measures. Given

that Bayesian analysis identifies both direct and indirect relations between items, the factor modeling is more reliable than when only a linear approach is used (i.e., factor analysis).

The study was lacking in terms of assessing the *moderators of group cohesion and its outcomes*. Although training and the group structure were taken into account, many potential moderators and mediators, such as norms, stability, interaction patterns, tasks, goals, group status, and leadership structure, were not systematically tested. In fact, there are several research questions that could be addressed from the process perspective, focusing on how cohesion is built up and not merely on the end state. A close look at predictors and moderators over the longer term would benefit research on unit cohesion in particular.

Sociometric analysis also raised some methodological concerns. Although sociometry has value in studying individual-level social reality and the members' social status and acceptance in the group, the results of this study suggest that it has only limited value in enhancing understanding of social integration among the members. In other words, sociometry is practical for studying the interpersonal structure in an isolated group. The first step in making more use of the concept would be to include separate questions on both the individual and the group level of analysis in the sociometric questionnaire in order to shed light on friendship between individuals and peer cohesion among group members.

If sociometric analysis is used for making comparisons between groups, there are several factors that should be taken into account. In terms of *group type and structure*, the proportion of leaders or males/females in the group may influence sociometric patterns, as well as the number of subgroups and the number of people in the group (Salo, 2006e). Moreover, *group formation* is often closely related to the task requirements, which influence the communication and cooperation patterns in and between groups. The more within-group cooperation that is required in order to carry out the task, the higher the sociometric and self-rated cohesion. If task accomplishment involves cooperation outside the group, primary-group cohesion may be lower even though unit cohesion may still be relatively strong (e.g., in teams and groups that support other units). If there are a lot of individual assignments peer cohesion may suffer, although the individual's pride in and commitment to doing the job may be sustained. These are only some examples of the issues that emerged in this study concerning sociometric questionnaires and measures of cohesion.

The *measures* used were far from perfect. In terms of cohesion, perhaps the main failings concerned the measure of organizational bonding, which did not include enough of the affective aspects. Future research should therefore focus more on the affective (unit climate and commitment) elements of organizational bonding. A further difficulty is measuring secondary-group cohesion arises because organizational bonding is sensitive to situational factors, whereas social and task cohesion, peer and leader

bonding, and institutional bonding may have more universal, stable elements. This study also lacked refined measures of institutional bonding. For example, the instrumental benefits of institutional membership are not clear in national service because conscripts receive no salary (except a small allowance), have no programmed career path, and have few obligations to the military after their conscript service.

There are various ways in which the measures could be clarified in future research. *Peer bonding* could measure both team- and taskwork dimensions. In other words, both the social-emotional and instrumental functions of group membership should be tested for components such as trust, care, friendship, instrumental support, attractiveness of membership, and acceptance by other members. Similarly, *leader-subordinate bonding* could be an indication of leader care and support, as well as of the leader's ability to control the group tasks and support the achievement of goals. On the other hand, questions concerning whether group members respect their leader and whether the leader has authority over them could be used to assess his or her instrumental utility. It would also be useful to study team cohesion among leaders as well as measuring the extent of bonding with higher-level secondary-group leaders. On the practical level one could ask whether the leaders show concern for and support other leaders, the extent to which they would choose to work together, as well as how far they identify with their peer leaders and the upper level of supervision (e.g., Siebold, 1990).

In terms of secondary-group cohesion, the measure of *organizational bonding* requires many improvements. Theoretically, organizational bonding contains the same affective and instrumental aspects as primary-group cohesion. However, specific items should be further tested in order to identify variables that are suitable for measuring organizational bonding in various units. For example, the affective side refers to the person's identification with the unit, and therefore, there could be questions about the respondent's sense of pride in belonging to the unit and his or her status as a valuable member of the organization (Griffith, 2002). Assessment of affective organizational bonding could be based on experiences of various aspects such as the quality of food, housing, and social activities in the unit (Siebold & Kelly, 1987a). Moreover, items concerning job satisfaction and the work/learning climate in the unit gauge the aspects of affective organizational bonding (Siebold, 1990).

The instrumental side of *organizational bonding* concerns work assignments, promotions, benefits, and the extent to which the fulfillment of basic personal needs and goals depends on the success of the organization (e.g., Siebold & Kelly, 1988a). On the other hand, management, the consistency of unit-level leadership, and group members' confidence in their unit command pertain to both affective and instrumental organizational bonding in the small unit (Griffith, 1986a). When training is one of the main functions of the group the perceived benefits of *training and education* (i.e., personal development, improved skills and knowledge) are most likely to be

associated with organizational bonding and may even be an inherent in it (Siebold & Kelly, 1987a). All in all, there is a need for more research on organizational cohesion in order to further define the concept of cohesion, and to enhance understanding of its associations with and differences from theoretical models of organizational commitment.

This study did not investigate a *concrete training program*, but focused on the general relationships between cohesion components and various criteria. It might therefore be useful to examine the impact of unit cohesion in particular organizations in terms of the characteristics of group members and leaders on different hierarchical levels as well as their group properties (e.g., performance, turnover, satisfaction, deviant behavior, organizational-citizenship behavior, and commitment) in connection with a specific training program at a certain point of time. This kind of research design would require multi-level analysis in order to establish the respective effects of each cohesion component on the criteria and to identify the related moderating factors.

The structural conditions (or domain) of the organization influence the affective domain of unit cohesion (e.g., Walberg, 1967), and therefore should be investigated and assessed at the same time. Moreover, combining objective measures and subjective perceptions would facilitate in-depth analysis of the phenomenon (Griffith & Vaitkus, 1999). Moreover, interviews and observations could be used in conjunction with surveys and other measures in order to identify the Lewinian total force field of social integration.

In terms of criteria, the cohesion components relate differently but significantly to a variety of outcomes. Future research could complement this study by examining certain criteria and their relations to each bonding level. For example, primary-group cohesion fosters certain norms that may relate to:

- Deviant behavior, reprimands, and sanctions;
- Social loafing and absenteeism, and conversely;
- Satisfaction, happiness, and social support.

On the other hand, negative experiences and low cohesiveness at the primary group level could be associated with:

- Physical and mental health problems;
- The avoidance of active participation in group events;
- Hazing and bullying;
- The number of doctor's appointments and exemptions from service.

Task cohesion and the instrumental aspect of unit cohesion could be assessed in terms of:

- The numbers of effective days in service or at work;
- Shared effort in achieving goals;
- Enhanced success and achievement in the group.

Naturally, performance is a typical criterion, but concrete measures of group productivity and effectiveness should be compared to measures of self-

efficacy, the readiness to carry on in taxing situations, and the performance ratings of the members.

Given that cohesion is essentially a group phenomenon, researchers should adopt *group-level* measures. Although the main platoon types were represented in this study (e.g., in article V), the 21 platoons were not big enough in terms of numbers to allow comfortable generalization of the group-level results. In addition, some important group-level moderators were not controlled for, such as size, type, mission, history, structure and the ways and means by which the groups functioned. For example, there was a lack of attention to communication, coordination, and cooperation in and between groups. As a recommendation, it would be useful in future research to gather data from different kinds of organizations and groups by means of similar methods and questionnaires in order to enhance understanding of the components of cohesion, their dimensions and outcomes in different units.

The analyses highlighted the need for a *follow-up multilevel analysis* that would more credibly assess the impact of group and organizational membership on cohesion, and of its moderating character. *Hierarchical linear modeling* would be an appropriate tool for controlling the variables at different levels of analysis on the group level. A longitudinal design would take into account the developmental sequences of the group. Measurements could be taken, for instance, (a) before or at the very beginning of the group membership – assessing the investigation stage of socialization, expectations, and prior latent commitment, (b) at the end of the most decisive socialization process, including all cohesion and criterion measures, (c) during the maintenance phase (e.g., periodically as part of job-satisfaction assessment), and (d) at the end of membership before discharge or relocation.

7.3 THEORETICAL IMPLICATIONS

Cohesion is a dynamic, constantly changing and developing product of social integration. The valence and magnitude of unit cohesion is influenced by the attractiveness of and satisfaction with the group and the unit, its members, and activities. Cohesion is a product of the total field of uniting forces that could be assessed in terms of the degree of bonding with peers, leaders, and subordinates among group members, and their attachment to their membership and the organizational characteristics of the unit to which they formally or informally belong or operate with.

Perhaps the main theoretical implication of this study concerns the standard model of unit cohesion, which depicts it as a series of uniting forces that encourage (a) social and (b) task cohesion on the primary-group level, and (c) organizational, (d) institutional and even (e) national/societal cohesion on the secondary level (Figure 4). Theoretically, each component

independently influences group members' identification with one another and with the group as a whole. In sum, the combination of the components and dimensions represents the *multidimensional paradigm of unit cohesion*.

Figure 4 The Standard Model of Unit Cohesion

Figure 4 summarizes the phenomenon of unit cohesion in a coherent picture and exemplifies the forces and mechanisms at each level that make people identify with and commit to the unit, its members, and the larger institution. Each component represents a unique set of individual positive sources that motivate members to stick with their nested primary and secondary groups. Moreover, each component serves distinctive purposes in the social-integration process and facilitates satisfaction with unit membership. *Social cohesion* serves the need for social acceptance, appreciation, and emotional support from significant others. *Task cohesion* provides a sense of competence, enjoyment of success, and drive at work. *Organizational cohesion* creates the feeling of being at home and belonging to a larger entity, of pride in unit membership, and a sense of importance as a person. *Institutional cohesion* is linked to a meaningful mission, a glorious history and traditions, principal values, and career and professional progression. In sum, *unit cohesion* gives the individual a sense of power, a feeling of security, a meaning to personal sacrifices, and the moral drive to carry out tasks and serve a larger purpose.

The standard model supports the existing literature on cohesion and organizational commitment suggesting that an individual could commit to

one or several levels of membership at the same time (e.g., Ellemers, 2001; Meyer & Allen, 1997). However, the motives for making such commitments are not necessarily identical, and individuals in a group may be united with their team and their unit for totally different reasons. In addition, the cohesion components seem to develop as a function of different predictors despite the variables that explain more than one type of cohesion. In terms of overlapping predictors, the relative importance of particular antecedents varies among the types of cohesion.

A group has its unique set of cohesion components. Moreover, each member bonds with the characteristics of the unit in a unique way. It would be useful in future research to examine and compare the personal bonding profiles that reflect varying degrees of the components. These profiles may form clusters that could be further examined in terms of their predictors and consequences in organizational membership. Similarly, there are several types of cohesion profiles that could be taken into account on the group level of analysis.

The components of cohesion have a varying influence on one another. On the individual level, bonding with and commitment to a psychologically and socially proximal unit promotes commitment to a more distal grouping (e.g., Heffner & Rentsch, 2001). For example, the sum of social and task cohesion among peers and leaders constitutes the extent to which primary-group cohesion positively influences organizational and institutional cohesion. Because the components are distinct and independent, there are units in which strong cohesion in one component does not necessarily result in positive cohesion in another. For example, strong social and task cohesion do not guarantee strong organizational or institutional cohesion in the unit. The components and their dimensions constitute the building blocks for effective social integration, and future studies should identify the favorable combinations of these elements.

As mentioned with regard to the methodological concerns, the associations between the measures were to a certain extent, reciprocal, and some components may share other connections in different circumstances. For example, the basic assumption is that social cohesion develops more rapidly than task cohesion, and once the group members have created strong task cohesion it reinforces their social cohesion. Thus, more research is needed in order to further define the similarities and differences in the predictors, components, and outcomes of unit cohesion in diverse situations. The following practical questions could be addressed. What are the precise measures of each cohesion component on the affective and instrumental dimensions? Is there any instrumental dimension on the level of institutional and societal bonding? Is continuance commitment associated with the instrumental aspect of organizational cohesion as opposed to the institutional level of bonding? What is the sequence of the process and what components should be built up first? What is the significance of latent national or institutional bonding in sports (e.g., the Olympic Games) or work

organizations? Which level binds the most (it is argued in this study, for example, that social cohesion is the last fiber that keeps members together in turmoil)?

Future research could also unify and test the diverse measures and models of unit cohesion (see Carron, Bartone, Gal, Griffith, Hogg, Siebold, and Zaccaro) that typically emphasize the primary-group level. These could then be further compared with the dimensions identified literature on the organizational commitment (e.g., Meyer & Allen, 1997) that focuses on the secondary group (typically on the individual level of analysis). Moreover, in contexts in which the organization also has a national purpose, the research could investigate levels of nationalism and patriotism. All these different measures should be tested in accordance with attitudinal, behavioral, and performance criteria. For example, attitudinal outcomes include achievement motivation, career intention, the intent to stay, and job satisfaction. Behavioral variables, on the other hand, assess social loafing, deviant behavior, altruism, and citizenship behavior, whereas performance measures incorporate actual and perceived personal- and group-performance variables.

The bonds that keep the group united are different from the bonds that keep it goal-oriented and functional in performance. A simple distinction the social and action components of the group is that an action requires a certain direction and preferably clear goals for cooperation, teamwork, and collective performance, whereas the social component implies members' satisfaction with the quality of the on-going relationships. The results of this study suggest that the best outcomes are likely when both dimensions (i.e., affective and instrumental) are well organized and when all the cohesion components are in balance. The two functions are mutually supportive in a well-balanced, cohesive group, resulting in satisfaction with interpersonal relationships and a willingness to participate in and contribute to the group activities. Moreover, the more tightly people bond with and commit to all the nested groupings (including the team, the group, the unit, and the institution) and their respective leaders, the stronger is the identification, conformity, dedication, perseverance, and endeavor among the unit members. The implication is that the organization benefits from maintaining a balance between group functions and cohesion components, and therefore it would be useful to consider all possible ways of supporting the cohesion structures in the units.

As long as the cohesion components are congruent, the individual is in harmony with the unit membership. However, if the components are not in balance, there may be forces that pull the group members in different directions. For example, in a situation in which a group has strong peer cohesion but weak leader-subordinate, organizational, and institutional cohesion, there is a risk that the members will become alienated from the "normal flow" of the unit and start to act in unproductive and even harmful ways from the perspective of unit management. Future research could

further examine unbalanced cohesion structures in groups, and their effects on shared mental models, organizational-citizenship behavior, and group performance. Research could also assess the links between primary-group cohesion and performance in conditions of either high or low training motivation, high and low secondary-group cohesion, and/or high and low self-enhancement among the members. Moreover, the investigation of cohesive, unproductive groups and gangs would enhance understanding of social cohesion and the influence of norms, informal leadership, and social relationships on group dynamics.

The main reason for individual participation in the group determines the characteristics of its activities and the type of cohesion that develops. For example, the group may strive to complete a job and therefore does not focus on the social functions. On the other hand, interpersonal conflict between members may force a task-focused group to allocate more time and energy to maintaining its social cohesion in order to secure its continuing existence. The main implication is that the relative importance of functions varies over time, as does their impact on primary-group cohesion. Research could examine which function is more important in a particular situation – trustworthy, interpersonal relationships or goal-orientation and task fulfillment. The assumption is that under heavy stress and fear, social cohesion matters most and helps the group members to perform together whereas, in a secure, more peaceful situation, and particularly in sports and at work, task cohesion is a stronger determinant of unity.

Cohesion has its origin in group processes (Zaccaro, 1981), and therefore the situation may define the ideal pattern of integrating forces and determine the valence, direction, and effect of the forces acting upon the group members. Future research should pay attention to the particular situation in the unit and between the groups because the degree of cohesion and the relative value of each component vary depending on the characteristics or developmental stage of the group. Future research should therefore also take into account group-level moderators of cohesion such as size, type, functions, task characteristics, and goals. Different situational characteristics could be considered, such as having a simple task under a clear authority, having several tasks and multiple leaders, and having no tasks and no official leaders. Different types of groups could also be included, such as low- vs. high-status groups, small and homogeneous groups vs. large and more heterogeneous units, and stable groups vs. units that have a higher turnover and more changes in personnel. Similarly, the relative importance of the affective and instrumental dimensions may vary depending on several moderators: the purpose of the group, the number of people involved, how long it has been in existence, and the extent of shared identification with the group, its status, or its norms. It has been found, for example, that organizational management, the personnel policy, the unit history, and organizational reinforcements and development affect individuals' commitment and consequently have an impact on cohesion.

Cohesion is influenced by (a) factors that persuade an individual to seek group membership, (b) the quality of interpersonal relationships and of the leadership, (c) the rewards and prestige attached to unit membership, and (d) the factors that make the individual stay in the group as a productive member. Research could focus on whether these basic reasons for unit membership vary as a function of the situational factors mentioned above. The type of cohesion influences the processes and characteristics that are favored in the group, and therefore research could reveal what kind of influences group cohesion has on routines, norms, and leadership.

Each cohesion component has unique effects on the individual's behavior and the group processes. The primary positive effects of cohesion include:

- The reinforcement of personal and shared aspirations and of active group membership;
- An increase in the internal power that unites the group members in terms of attitudes and behavior, and makes them more capable of collective action;
- Elevated interactive processes in the unit in aspects such as interpersonal communication, interpersonal attraction, the group pressure for uniformity, leader-subordinate relationships, and the unit climate;
- The expansion of human and social capital that helps the group to outperform other units and to remain united in times of trouble.

The more uniform the attitudes and behavior of the members are, the more cohesive the group is. This acknowledged truth could be further examined by taking into account the variance in attitudes and behavior as well as their expected antecedents and outcomes. Moreover, it would be useful to explore the processes in which proper attitudes and behavior are defined, monitored, and sanctioned, and the effects that specific norms have in cohesive and non-cohesive groups.

Cohesion strongly fosters altruism, task orientation, good conduct, and positive attitudes toward the organization, staying in the group, and turning membership into a career. Given these positive outcomes, it would also be worth analyzing the possible indicators of low cohesiveness such as disintegration of the group, violence and harassment within it, tardiness or absence, and deviant behavior and lack of conformity among the members to find out whether these and other negative group phenomena are directly related to cohesion or moderated by some other situational factors.

The main reasons for the interest in the development and maintenance of unit cohesion derive from its effects on the acceptance of the organizational mission and goals as a direction for individual and group performance. However, this requires that all salient levels of bonding are positive and strong. Ideally, all components have an impact on behavior – although the forces do not always necessarily pull in the same direction. Understanding the development process will enable management and leaders to design and direct the actions of people in accordance with organizational norms and intent.

There is also a need for research on the main effects of the different dimensions and levels of cohesion, and on whether all components are necessary for effective performance, retention, and reenlistment. The relation between cohesion and performance is well established. However, more research is required in order to understand the effect of the different components of cohesion on (a) self-efficacy or perceived personal performance, (b) collective efficacy or perceived group performance, (c) measured personal performance, and (d) measured group performance. Controlling for the viable moderating factors should yield theoretically and practically useful results. The causal relation between cohesion and performance would also be an interesting research topic. Cohesion may encourage group members to work harder and perform better, which in turn enhances performance, increases satisfaction with group membership, and strengthens the cohesiveness of the group. Performance success may also encourage more people to participate in activities or to apply for group membership, and thus may even have an influence prior to membership through facilitating initial bonding.

Whereas primary-group cohesion binds individuals to the group, organizational commitment binds them to the unit and the institution, creating an internal control mechanism that intensifies the salience of membership. Table 15 combines the components of commitment and control (as adopted from Meyer & Allen, 1997; Rousseau, 1989; Siebold & Lindsay, 1999), and illustrates the respective links. Further, research on commitment, control, and cohesion could explore the controlling forces that commitment and bonding create.

Table 15. *The Association Between Commitment and Control*

Commitment	↔	Control
Affective	↔	Social identity
Normative	↔	Social pressure
Continuance	↔	Psychological contract

Cohesion is essentially a group attribute or property (Carron & Brawley, 2000; Hogg, 1992; Siebold, 1987), whereas bonding and commitment refer to the individual properties of an association (Siebold, 1993; Siebold & Lindsay, 1999). As a group phenomenon, the cohesion composite could be assessed, for example, (a) within a group, (b) across groups on the same lateral level, (c) between groups on different levels, (d) within the unit, and (e) between the units (cf. Siebold, 1993; Siebold & Lindsay, 1999). It would also be useful to establish which level of cohesion is most crucial in terms of the personal satisfaction of members as well as group performance among squads / teams (3-10 people) or platoons / small departments / workgroups (10-40 people). If there are more than 40 people, where is the line between

primary- and secondary group bonding? It would also be worth investigating whether there are consistent differences in cohesion components among the different types of groups depending on recruitment, selection and socialization process, and the organizational rules and regimentation. Such differences are likely to affect the interpersonal relationships, norms, and cohesion in a given group, and call for more attention in longitudinal, multi-level analyses.

Future research on the differences and relative strengths of the cohesion components in *different countries, cultures, and traditions* would extend the relevance of the current study. What is the level of national bonding in institutions that are multinational (e.g., the EU and the United Nations) and multinational corporations? What are the effects on cohesion and commitment if the national interest and the interests of a multinational corporation conflict? On the organizational level, it would be worth investigating the variation in unit characteristics such as its mission and vision, and climate, job satisfaction, management, empowerment, and intergroup social relationships.

Organizations that regularly deal with groups could consistently measure unit cohesion and utilize the results on the unit level. For example, *surveys* could be used at the group-formation stage, deployed employees could fill in Internet-based questionnaires from overseas designed to assess potential levels of boredom and decline in cohesion, and sociometric questionnaires incorporating open questions could be administered in small groups in order to shed light on informal group structures and to identify the informal leaders. In sum, the unit could devise a systematic method for utilizing simple questionnaires in order to gather information that may not be noticed otherwise. Carefully collected longitudinal data based on standardized measures would serve almost countless research purposes if gathered and pooled for use throughout the organization over the years.

Sociometry reveals the network of informal relationships in the unit, which in turn resembles the affect structure among the group members. These informal connections influence social cohesion in the group. In addition, sociometric measures seem to assess individuals' satisfaction with their membership and with the informal structure of the group. From this perspective, cohesion research could examine:

a. The status of individuals as friends, colleagues, or prospective leaders;
b. The differences between various status groups;
c. Intragroup vs. intergroup selection;
d. The differences between a cohesive and a non-cohesive group in terms of the informal structure;
e. The characteristics of popular group members (i.e., the "social stars");
f. The extent to which the sociometric structure matches the structure of communication, the work situation, the physical location of the members, and the social and task support.

More specifically, the following research questions could be addressed. What are the *sociometric* positions of the group members? What defines an individual with a certain status position? What kinds of people are typically nominated as friends and co-workers in questionnaires, and what kinds of people are rejected? What are the differences between best friends and best colleagues? What is wrong with a group if the members do not nominate their best friends from within, indicating a desire to affiliate elsewhere? What kinds of people are preferred as leaders? If the leader is selected from another group, what does that imply about the cohesion in the group? Does the context influence the number and type of nominees? How does a cohesive squad differ from a non-cohesive squad?

The relationship between a group and its members develops over time (Levine et al., 1996). Despite the acquisition of personal skills and knowledge and experience of different roles, the group may fall into regression and entropy because of shared boredom with the tasks and poor leadership. It would therefore be interesting to analyze *changes over time* in order to identify the driving forces of social integration in specific contexts, the impact of group tenure and the development of functions and unit cohesion, and the extent to which interactions and events influence group processes. Cohesion could be examined on the basis of the developmental stages of the unit (on the group level) and in terms of individual bonding (on the individual level). The development of cohesion could be traced through the typical phases of the group process (forming, storming, norming, and performing; Tuckman, 1965) in order to identify the factors that retain their importance and those that notably lose significance as a function of the group development. As a result, it should be possible to devise suitable cohesion measures for use in research and in designing practical interventions aimed at the leaders at each developmental phase.

An individual's organizational and institutional bonding may positively affect *family members*' commitment to and support for his or her organizational membership. In turn, family members' perceptions may influence the individual's career intentions, retention, and reenlistment, and attitudes toward deployment. For example, research on turnover, job satisfaction, and personnel policy could well take into account unit cohesion and the commitment of family members.

Studies on cohesion could also examine *minority groups* in organizations, and the extent to which the representatives of such groups are integrated into the mixed group. Network analysis could be utilized to identify whether the minorities are isolated from the normal flow of the group. Moreover, research on organizations in which there are only a few women could focus on the interaction and cooperation between men and women, leadership differences between all-male and mixed groups, and the extent to which a woman is accepted as a leader or a co-worker in an organization in which females are in the minority. It would also be interesting to examine whether

the acceptance of women is moderated by the risks or danger involved in the task.

Social identity is influenced by the social-integration process and the degree of unit cohesion. Identification links the individual more with the primary group, whereas organizational and institutional bonding link him or her with the secondary group and its goals. Future research could apply theories of cohesion (attraction to the group) and identification (social attraction) in order to study social integration in groupings. For example, measuring each member's social attraction and aggregating it would give an indication of primary-group cohesion. Moreover, cohesion studies would presumably benefit from incorporating measures of protypicality, status, and comparison levels into the research design.

Future research could address the following questions. Does social identity require a certain level of commitment to other group members? How does group cohesion affect the members' social identity? Which is more necessary for social identity – affective or instrumental bonding? Does organizational or institutional bonding create higher-order identities (e.g., social identity as representing a certain profession or a nation)? On the national level of bonding, most members of national populations have a latent identity as a citizen, which serves as a basis for institutional identity. Someone who is deployed in a different unit is likely to have a certain higher-order identity as a member of an organization and institution, which may help in the development of commitment to a new unit in the same institutional framework. Does organizational or institutional bonding ease the relocation of an individual or a whole team? What is the relation between social identity and an individual's attitudes and behavior in the group?

The double arrow in the standard model of cohesion (Figure 4) represents the *linking-pin leader* who transfers organizational goals and requirements to the individual level of group life, and conversely transmits the needs of the group to the organizational-management level. He or she represents the secondary group in his or her team, and correspondingly is the representative of the team in organizational events and meetings. Research on leadership could address the following research questions, for example. What kind of leadership creates strong social and task cohesion in the group? What kind of leadership links the group members with the organization and its purpose? What is the influence of the properties of cohesion on leadership? What are the best practices that leaders could use during the different stages of the group process? How can a leader survive in a situation in which the group is falling apart due to internal or external reasons?

There are also situations in which the group members carry out tasks and maintain the production rate without any input from the leader. It would therefore be useful to study *unsuccessful leaders* who have no meaningful impact on the satisfaction and performance of their followers. Conversely, successful leadership may result in a situation in which the members of a cohesive group are highly motivated to achieve their shared goals with

minimal supervision (Zazanis et al., 2001), and research aimed at identifying leadership behavior that leads to such a situation would be worthwhile. Official organizational representatives such as commanders and higher executives could also be assessed in terms of their direct and indirect effects on performance, retention, satisfaction, and organizational and institutional bonding in their units.

The characteristics of the group and the organizational context moderate the leader's influence. Therefore, *leadership studies* should focus more on group-level matters such as the tasks and goals rather than the personal properties of the leader, for example. It would therefore be worthwhile examining the following aspects of group properties and the organizational context:

- The characteristics of organizational leadership, also taking into account the situation-specific norms, expectations, and habits that guide it and the selection and training processes involved in developing future unit leaders;
- The conduct and quality of management in terms of rules, regulations, planning procedures, guidance, and information flow, for example;
- The organizational culture;
- The subcomponents of structural distance, such as the physical, organizational, and supervision structure and the respective effects on the frequency and quality of interaction and contact between the followers, and leaders' and subordinates' varying perceptions of their close and distant leaders.

The findings from such research could validate the effects of secondary-group characteristics and the leadership context on primary-group cohesion.

Secondary-group cohesion as a concept combines the various types of abstract affective and instrumental bonds and commitment above the primary-group level. For example, organizational cohesion may be a function of:

- Identification with the unit;
- Satisfaction with its practices (e.g., met expectations, climate and atmosphere, and perceived organizational support);
- The management and personnel policy;
- The extent to which individual and unit needs and values match;
- The instrumental benefits derived from unit membership, such as pay, rank, success, prestige, career opportunities, and/or retirement funding.

However, the main factors and variables that determine organizational and institutional cohesion are not yet well-defined. The theory and research on cohesion, social identity, and commitment could therefore be applied in order to enhance understanding of the processes and variables that lead to secondary-group cohesion in organizations. In more practical terms, future research could explore how organizational cohesion is created in various social and organizational entities. One option would be to investigate whether group members' attitudes and behavior vary as a function of

organizational differences in terms of size, unit structure, span of control, information flow, hierarchical levels, management, personnel policy, resources, and/or climate and atmosphere.

In this study, the individual-level analysis of a set of data revealed that institutional bonding was the best predictor of reenlistment intentions and social loafing of among members of small units. Moreover, the results of Bayesian dependency modeling identified institutional bonding as an over-arching, linch-pin construct in small-unit dynamics. Decreases in levels of institutional bonding have several undesirable consequences with regard to personal motivation and unit cohesion that may weaken the effectiveness of the group and the satisfaction of its members. These results highlight the need for more research on the antecedents and the development of institutional bonding over time in the context of the other cohesion components and situational factors.

7.4 PRACTICAL RECOMMENDATIONS FOR IMPROVING SOCIAL INTEGRATION IN SMALL UNITS

Aspects of the *group-formation process* are of relevance in the construction of a strong foundation on which to develop group cohesion. The organization can set the process in motion by applying its knowledge of cohesion-related personality variables in its *recruitment and selection* policies, for example (e.g., Bartone et al., 2002; Brickson & Brewer, 2001; Halfhill et al., 2005). Moreover, it could assess and evaluate the skills and knowledge that are relevant for the tasks in question, as well as personality characteristics that facilitate social integration, such as sociability, optimism, adaptability, and hardiness. The first step in the process of social integration is to familiarize newcomers with the other members of the group and the key leaders in terms of their names and basic background information. The objectives are to reduce stress and help the newcomers adjust to the situation by establishing a safe and secure environment with new friends and supportive leaders, and to make them feel welcome and confident that the unit is concerned about their welfare in any event.

In their first group experiences, the newcomers are familiarized with the physical surroundings (e.g., work places, meeting rooms, and restrooms) and the basic rules, standards, and organizational regulations. They adopt the appropriate attitudes, values, and behavior, and internalize the behavioral norms of the team, such as open communication and a willingness to help others. In cases in which all the members are newcomers the leader has a unique opportunity to set the group norms, routines, and standards. He or she may also utilize capable and willing mentors in helping newcomers to learn the ropes. After these first experiences the new members are more capable of acquiring the necessary social skills to engage in interpersonal

relationships, as well as the task-related skills required for acceptable job performance (e.g., Likert, 1961).

The guidelines for supporting the process of group formation and socialization should cover the multifaceted aspects of social life by enhancing knowledge about taskwork vs. teamwork, instrumental vs. emotional group functions, goal orientation vs. social orientation, formal vs. informal relationships, and different outcomes on the personal and group levels. All this will ensure that the process will have a holistic and pervasive impact in terms of enhancing the personal satisfaction of the individuals and the effectiveness of the group.

During the forming stage, the main concerns of newcomers are related to gaining the acceptance of the other members, forming trusting relationships with their immediate leaders, adjusting to the conditions, and adjusting to the rigors of group life. In the sustaining phase, they start to trust in their leaders and the other group members, form friendship ties, learn to live and behave in accordance with the accepted norms and standards, and start to perform as an effective group demonstrating competence in their work. Organizations should thus take into account these developmental phases when they impact information, carry out training, allocate responsibilities, and provide guidance and support in order to maximize social integration: personal concerns and ambitions as well as processes change over time.

The maintenance of a group structure and cohesion may be even more demanding than their formation. Therefore, more effort is needed to support social integration during the normal organization flow given that cohesion and commitment typically weaken over time. Socialization programs and organizational interventions should take account of various aspects of personal behavior that indicate proper social integration. For example, the leader should focus on creating and maintaining a group in which the members:

- Value their organizational membership;
- Sustain the atmosphere in the unit;
- Have a sense of mutual respect and trust one another;
- Have trust and confidence in their leaders;
- Help, support, advise, and encourage others in their personal problems as well as in their job- or training-related tasks;
- Are able to attend to their personal and family problems;
- Cope with challenging situations in the unit;
- Control their own emotions under stress;
- Share their personal thoughts, ideas, opinions, and experiences;
- Possess the required skills and knowledge for effective performance;
- Work to achieve their shared goals;
- Are willing to learn more about others' jobs and tasks in order to support the effectiveness of the group;
- Feel that they are valuable and their personal skills are of use in the group;

- Draw their motivation and self-discipline from the group membership;
- Act as one even when the leader is not present.

The recommendation is that the leaders should strengthen unit cohesion by teaching and supporting above-mentioned individual behavior that positively influences social integration.

Because unit cohesion is a group phenomenon, the principal objective should focus on *group-level outcomes*. Interventions should therefore aim at creating and maintaining a cohesive unit in which the members:

- Form close-knit friendship ties (and discourage isolates and cliques);
- Show concern, such as exchanging greetings and giving congratulations;
- Are more successful in reducing tension and solving interpersonal problems, which results in less aggression and a heightened sense of well-being among the members;
- Disseminate information faster (and circulate both unofficial and official information to everyone);
- Reinforce normative codes, social comparison, and social learning in order to regulate behavior, attitudes, and performance;
- Discuss viable alternatives and then accept and act on the shared decision;
- Show initiative and take action (before being obliged to do so);
- Influence others' attitudes and behavior;
- Influence the decisions made in the group;
- Pull together to maintain effective cooperation and coordination;
- Have intense feedback discussions in order to improve current levels of performance;
- Meet standards and deadlines, and aim to achieve consistent results;
- Share the same vision and goals, and work together in order to meet group objectives;
- Have a strong sense of belonging to and identification with the group;
- Take pride in the unit and the institution.

The desirable outcomes include the adoption of similar language patterns, consistent performance in line with organizational goals, commitment to organizational customs and traditions, the sharing of mental models, which reduces the need constant communication, and are pride in common accomplishments and group membership. Overall, leaders would do well to consider these characteristics of a cohesive group when engaging in the process of team building.

On the individual level, group members can facilitate integration into the group by:

a. Being proactive and sociable;
b. Making and maintaining friendships;
c. Talking with other group members;
d. Spending time and doing things with others;
e. Helping others with tasks;
f. Doing their share and never letting friends down;

g. Acting for the benefit of the group;
h. Being loyal to the group and protecting its reputation;
i. Settling disagreements between members;
j. Protecting and helping slower learners or performers;
k. Inviting other members to join in the group activities;
l. Supporting the group leader and helping him or her to make effective decisions.

Leaders and researchers could systematically and periodically evaluate the characteristics of a cohesive group in order to fully understand the quality of group life and how better to achieve integration. The evaluation could be made on the basis of observation, discussion, questionnaire data, and feedback, suggestions, and complaints received from members of the group. Perhaps the best way of sensing the pulse of the group and the unit atmosphere is to live and work with the members. The constant presence of the leader may be stressful at first, but in the end it produces shared experiences that support shared mental models, social identity, and stronger cohesion. Gaining first-hand experience makes the leader more capable and better equipped to minimize the weaknesses on the group and develop its strengths.

Over time, the influence of each cohesion component on the others and on the potential outcomes of team behavior varies. Therefore, the different components should be promoted separately. Similarly, the group processes, the salience of specific team behavior, and experiences in the group may vary over time, influencing the effectiveness of team-building methods in strengthening cohesion (Spink & Carron, 1994). For example, the need for social and task support may differ as the group develops and matures. Therefore, unit leadership should draw attention to different aspects of critical team behavior over time and adjust its tools and methods to match each developmental phase.

Social integration works against *alienation*, referring to a sense of powerlessness and meaninglessness, normlessness, social isolation, and value isolation (cf. Seeman, 1972). Involving group members through active participation in the planning of options and decision-making weakens the feeling of *powerlessness*, and pays off in terms of organizational improvements, task cohesion, being better able to adjust the group performance in changing situations, and the more active involvement of the members in cooperation and the coordination of tasks. Commanders and higher-level leaders should therefore delegate more control and authority to their subordinates in the planning of daily activities, organizing events, making decisions, and allocating rewards, sanctions, allowances, and passes. Through goal-setting, subordinates are able to influence essential decisions and tailor their group life to the achievement of objectives. As a consequence, they formulate a shared mission and accept the necessary means for its accomplishment. A sense of control, responsibility for tasks and processes, and freedom of choice in deciding how the given tasks are carried out

strengthen the sense of ownership on the lower levels of hierarchy, and in the end support authority (e.g., Henderson, 1985; Kirkland, 1987; Lawler, 2001; Yoon & Lawler, 2005).

Social integration counteracts a sense of *meaninglessness* through the creation of a meaningful context for group activities and a general sense of purpose for the mission. Management can support the process by providing group members with all the time and resources they need to carry out their work. Moreover, leaders should periodically explain the purpose of the group and its specific functions and performance in practical terms because a sense of *meaningfulness* may be even more important than the working conditions. Clear, practical, attainable personal and group goals give meaning to otherwise tedious activities, whereas a lack of vision and an unclear mission undermine the importance of daily work.

Training in sports, at schools, and in the military is used as a vehicle for social integration and for giving *meaningfulness* to organizational membership. Specifically, the quality of training, the provision of information and feedback, the physical element, and the standard of the equipment all help to convey the message that the personal needs of the individuals are taken care of and that the organization is interested in the personal growth of its personnel. Group members share developmental experiences that support personal growth, self-efficacy, and trust in their combined abilities. There are many other ways of promoting meaningfulness: identifying the best working practices and procedures,

- Focusing on the tasks that lead to the fulfillment of the mission;
- Focusing on communication, cooperation, and coordination;
- Celebrating accomplishments together;
- Learning from mistakes;
- Focusing on what is meaningful in the tasks;
- Working together on developing practices.

Setting and maintaining standards, exerting reasonable social pressure and fostering an orientation to consensus and conformity serve to weaken a sense of *normlessness*. A clear set of values, explicit and simple rules, and behavioral and production norms that foster discipline and obedience as well as compliance facilitate social integration. The social structure may have an impact on the creation and upholding of norms. The preferred combination according to the results of this study is a three- to four-person team that is nested in a seven-to-ten-people group, which in turn is part of a larger unit. In that case every person has a close buddy or two in the group and the buddy system is effectively integrated in the unit structure, thereby supporting compatible norms from buddy relations to the unit level.

A social isolate may find a cohesive group difficult to cope with. *Social isolation* is associated with increased levels of dissatisfaction and depression, and with the likelihood of leaving the group. It thus works against social integration and may lead to disintegration. On the individual level, the group could minimize social isolation by ensuring that the strongest members in

terms of social abilities help the weakest ones. The mottos "One for all – all for one" and "No man is left behind" exemplify the group spirit that has prevailed over centuries in order to avoid social isolation. Leadership could promote the acceptance of all members by rewarding people based on their social and task support, and not tolerating harassment in the group.

Those responsible for group dynamics should also take into account the physical surroundings and existing interaction patterns in order to facilitate social contact and reduce the likelihood of *social isolation*. The hierarchical structure and physical distance may inhibit direct interaction between leaders and their followers, which in turn has a negative influence on unit cohesion. Focusing on information flow, fostering formal and informal contacts between leaders and their subordinates, and ensuring that the unit members are familiar with their immediate supervisors could minimize this effect. Informal events allow leaders to acquaint themselves with their subordinates without being burdened by authority. In organizations in which the official hierarchy limits the interaction in daily routines, social events allow people to forget differences in rank differences and to interact and cooperate on the basis of other than work-related skills and knowledge. Thus, people of different rank are able to interact more naturally, and subordinates may even outperform their supervisors (Ingraham & Manning, 1981). Furthermore, subordinates are able to witness at firsthand how their leaders perform, which may increase their confidence in the leaders. All in all, the organization should aim to create a situation in which its members can invest their care and support in the same people who satisfy their social, emotional, and instrumental needs. Physical working and living conditions that encourage everyone in the group to interact and cooperate tend to be the best basis on which to develop cohesive, effective units.

Value isolation through self-estrangement can be tackled by connecting the individual's needs, hopes, and expectations with his or her experiences of personal growth and development. It may be possible to avoid value isolation by the following means:

- Linking the person with the traditions and values of the unit by instilling shared values that relate to the purpose of the group;
- Making them aware of the unit's distinctive history;
- Honoring the past and confirming the future purpose in events, rituals, and ceremonies;
- Acknowledging the value of retiring workers or group members;
- Retaining information about organizational heroes.

Moreover, the characteristics that express the uniqueness of the secondary group could be instilled in the socialization process, reinforced through organizational events, and transformed into daily habits in the form of language, gestures, symbols, decorations, insignia, and clothing.

The results of this study imply that group processes are not adequate for sustaining cohesion over time (cf. Siebold, 1996): maintaining a sense of purpose and meaning and fostering social integration require *active*

leadership and organizational effort. Immediate superiors are instrumental in facilitating group formation, the maintenance of the functions, and the members' well-being in the unit. Their main purpose is to take care of the tasks and functions of the group as well as the basic needs of its members. In brief, leaders could facilitate social integration by offering social support, task support, and will support:

- Social support focuses on personal adjustment to the group and the maintenance of rewarding social relationships and teamwork;
- Task support facilitates cooperation, coordination, and group efficiency;
- Will support strengthens motivation and commitment to the unit membership.

In terms of task support, the immediate superior is responsible for creating and giving purpose, direction, and motivation to his or her subordinates, supporting their personal growth and the fulfillment of their membership needs, and creating demanding goals that advance the development of the group. With regard to task performance, he or she can foster social integration by allowing the subordinates to participate in goal-setting, providing feedback on group performance, and rewarding the whole group when an important stage has been reached, high standards have been met, and useful techniques, methods, or other innovative solutions have been developed.

In conclusion, every organization should identify the best practices through which to offer the peer, leader, and organizational support that fit the specific context and needs of its members. Tackling the aforementioned aspects of alienation in group-formation and socialization programs will support unit cohesion. Such group-level interventions are beneficial because they improve the nature of the social relationships, intensify the functioning of the group, and enhance the likelihood of positive experiences of group membership.

7.5 CONCLUDING REMARKS

This study examined unit cohesion and its components. Unit cohesion is conceptualized as an ongoing process of social integration and bonding that takes place among group members, between followers and leaders, and within their larger secondary groups. The conceptual framework identified four components of cohesion: horizontal, vertical, organizational and institutional bonding, and their affective and instrumental dimensions. The levels of the components are not stable and unvarying, but change, and develop through the process of interaction and experience in primary and secondary groupings. Combined, they represent the degree of social integration among the group members into their unit.

The contribution of the present study to the research on unit cohesion could be summarized in five points:

1. It further generalizes the results of past research by producing similar results with respect to primary-group cohesion in a sample of non-English-speaking service members.
2. It expands the framework for conducting research in the domain of cohesion by including the elements of secondary-group cohesion – organizational and institutional bonding.
3. It clarifies the relations between cohesion and various desirable outcome criteria through the application of the four-component framework.
4. The analyses highlight the need to consider inconsistencies among the components in order to achieve a better understanding of the impact of cohesion on the criteria and of the underlying causal dynamics.
5. It points out areas in which the research on cohesion could be more readily linked to other areas of research.

Overall, this study will benefit: (a) leaders in providing knowledge about social integration and vertical cohesion in the group, and pointing out their vital role as linking-pins between the group and the unit; (b) policy makers in terms of emphasizing the importance of team-building programs and social integration among the members at each developmental phase, and (c) researchers in drawing their attention to more a holistic framework incorporating psychology, social psychology, and sociology, and inviting and inspiring them engage in scientific conversation and cooperation across the branches. In sum, the results strongly suggest that well-directed team-building and commitment programs should be incorporated into group training and development.

In conclusion, the aim in this study was to provide a stronger basis on which to build a more comprehensive theory of cohesion, and to make more conscious use of group dynamics in the future. All four bonding levels should be measured, integrated, and included in the research in order to enhance understanding of the full spectrum of social integration in small units. Such an approach would pave the way for gaining greater insight into and control over cohesion and its various dimensions.

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APPENDICES

APPENDIX 1 – SURVEY QUESTIONNAIRES

1. THE FIRST QUESTIONNAIRE BEFORE ENTERING SERVICE IN JANUARY AND JULY 2001

At first, mark your personal code

1. Date of answering the questionnaire

Use one of these alternatives to answer the next questions:

A = Poorly; B = Fairly poorly; C = Cannot say; D = Fairly well; E = Well

2. I will adjust to dormitory accommodation
3. I can adjust to being around people I do not know
4. I normally adjust to a new environment
5. I will adjust to using weapons and explosives
6. I will adjust to military discipline (orders, commanding and obeying)
7. I will adjust to being away from my family
8. I will adjust to being away from my friends
9. I adjusted to comprehensive school
10. My health corresponds to the demands of military service
11. I will adjust to military service
12. I will adjust to the rush and the strict timetables
13. I will adjust to waking up early (approximately 6 a.m.)
14. I can cope with the physical demands of military service
15. I can cope with the mental pressure of conscript training

Use one of these alternatives to answer the next questions:

A = Totally agree; B = Partly agree; C = Difficult to say; D = Partly disagree; E = Totally disagree

16. Military service is useless and unnecessary
17. Very small and sometimes also unimportant things make me nervous or tense
18. I often feel depressed
19. I was hazed at school
20. I have had suicidal thoughts
21. I have often felt that life is not worth living
22. I am often anxious and tense
23. If I could live my life all over again, I would do almost everything differently
24. I have not been getting along with my parents
25. Military service is going to have a negative impact on my civil relationships
26. Belonging to a squad or a group feels pressing beforehand
27. I am not interested in military service
28. I have considered applying for unarmed service

29. I cannot stand being ordered around and commanded
30. I have considered dropping out of service
31. I do not feel a part of this society (system)
32. Individuals should not be fitted into one mold
33. I usually do not share my thoughts with other people
34. I feel uncomfortable with other people

Use one of these alternatives to answer the next questions:

A = Totally disagree; B = Partly disagree; C = Difficult to say; D = Partly agree; E = Totally agree

35. I am highly motivated to complete my military service
36. If Finland is attacked, Finns must defend themselves with arms in all circumstances, no matter what the end result
37. All men should carry out military service as a part of total defense
38. It is easy for me to obey given orders
39. Getting a military training is important and significant to me
40. I want to learn the things that are taught thoroughly
41. I am willing to participate in training that is intellectually demanding
42. To me it is important to do well in the army
43. I am interested in occupations in the field of security
44. I am healthy and my physical health is better than in my age group in general
45. I was admitted to the same brigade (unit) that I had wished for in advance
46. It is easy for me to make new friends
47. My friends / girlfriend / boyfriend have a positive attitude towards military service
48. My parents have a positive attitude towards military service
49. I will feel at home in military service
50. My personal contribution to military service is important
51. An explicit chain of command promotes action in the army
52. I will try to do my best in training
53. Military service is every male citizen's duty
54. I was willing to help other students at school

Use one of these alternatives to answer the next questions

A = Yes / B = No

55. During the last year I have had quarrels at home
56. ...little or no money
57. ...disease or injury
58. ...sleeping disorders (broken sleep/trouble falling asleep/waking up too early)
59. ...quarrels with my girlfriend / boyfriend or with my wife / husband
60. ...a relationship that ended
61. Instructors or doctors should have more time to talk about things (e.g., like the ones in this survey):

A. Totally agree; B. Partly agree; C. Difficult to say; D. Partly disagree; E. Totally disagree

62. I drink alcohol: A = Not at all; B = Once a month or a few times a year; C = 2-3 times a month; D = Once a week; E = 2 times a week or more often
63. My attitude towards drugs is...

A. Extremely negative; B. Negative; C. Neutral; D. Positive; E. Extremely positive

64. Marital status / relationship:
A = Single; B = Dating; C = Engaged; D = Common-law-marriage; E = Marriage
65. I would like to complete the following military service and period of service
A. 180 days, no matter what instruction; B. 180 days, certain instruction; C. 270 days; D. 362 days, rank and file; E. 362 days, squad leader; F. 362 days, platoon commander
66. I have received enough information about military service in advance (exercises, leaves, etc.)
A. Totally disagree; B. Partly disagree; C. Difficult to say; D. Partly agree; E. Totally agree
67. I am stepping into military service with positive expectations:
A. Totally disagree; B. Partly disagree; C. Difficult to say; D. Partly agree; E. Totally agree
68. Drug tests for recruits should be allowed: A = Yes / B = No
69. During the last year I have had quarrels with my teacher or supervisor A = Yes / B = No
70. ... I was fired from work A = Yes / B = No
71. ... I was accused of a crime A = Yes / B = No
72. I have received most of the information about conscription from...
A. my family and relatives; B. my friends who have completed service; C. other friends; D. newspapers, radio, TV, Internet; E. school; F. To Become a Conscript-booklet; G. the conscription; H. somewhere else
73. Sex: A = Male / B = Female
74. Age: A = 18; B = 19; C = 20; D = 21; E = 22; F = 23-25; G = 26 or older
75. My rotation to conscript service is... A = 1/2001; B = 2/2001
76. The distance between my home town and the current unit is:
A = Less than 10 km; B = 10-20 km; C = 20-50 km; D = 50-100 km; E = 100-200 km; F = More than 200 km
77. The number of inhabitants in my home town:
A. Helsinki-area; B. 100 000 – 200 000 inhabitants; C. 30 000 – 100 000 inhabitants; D. 8000 – 30 000 inhabitants; E. Town of 2000-8000 inhabitants; F. Population center of 2000-8000 inhabitants; G. 1000-2000 inhabitants; H. 200-1000 inhabitants; I. Less than 200 inhabitants
78. I share the cost of family accommodation: A = Yes / B = No
79. I have a loan or loans: A = None; B = Less than 400 euros; C = 400-799 euros; D = 800-1249 euros; E = 1250-2499 euros; F = 2500-3999 euros; G = More than 4000 euros
80. I have last graduated from: A = Comprehensive school; B = Vocational school; C = Senior high school; D = Polytechnic; E = University
81. The GPA of my comprehensive school diploma was...
A = Less than 5.50; B = 5.50 - 5.99; C = 6.00 - 6.49; D = 6.50 - 6.99; E = 7.00 - 7.49;
F = 7.50 - 7.99; G = 8.00 - 8.49; H = 8.50 - 8.99; I = 9.00 - 10.00
82. I have not finished school yet: A = At vocational school; B = At senior high school; C = At polytechnic; D = At university; E = I am not studying at any school or university
83. My work and studying situation before conscript service:
A = I did not work or study; B = I had a job; C = I was studying
84. After conscript service I have:
A = A certain job; B = A certain place to study; C = No job or place of study
85. My current habitation:
A = With my parents; B = With my father; C = With my mother; D = With my grandparent(s); E = With my girlfriend (or boyfriend); F = With my wife (or husband); G = With somebody else; H = Alone in a student village or dormitory; I = Alone in a rented or owned apartment

86. My father or caretaker belongs to the following occupational group:
    A = Employer; B = Entrepreneur; C = Upper clerical employee; D = Lower clerical employee; E = Employee; F = Student; G = Unemployed; H = Other
87. I have had jobs: A = 1; B = 2; C = 3; D = 4-5; E = 5-8; F = More than 8; G = None
88. My father has died A = Yes / B = No
89. My mother has died A = Yes / B = No
90. My parents have divorced A = Yes / B = No / C = They live apart
91. When my parents got a divorce, I was: A = 0-5 years old; B = 6-10 years old; C = 11-14 years old; D = 15-17 years old; E = 18 or older; F = My parents have not divorced
92. I have lived in the following number of places so far:
    A = 1; B = 2; C = 3; D = 4-5; E = 5-8; F = More than 8
93. I felt at home at school: A. Poorly; B. Fairly poorly; C. I cannot say; D. Fairly well; E. Well
94. I had to repeat a year at comprehensive school A = Yes / B = No
95. I had learning problems at comprehensive school A = Yes / B = No
96. I have attended remedial teaching and special groups A = Yes / B = No
97. I exercise: A. Once a month or more seldom; B. Twice a month; C. Once a week; D. 2-3 times a week; E. Almost daily; F. Daily
98. My father has completed military service and his rank is... A. Private; B. Lance corporal; C. Warrant officer; D. Reserve officer; E. I do not know my father's rank; F. My father has not completed military service

Check that your last answer is in slot 98.

Thank you very much for your answers and good luck!

2. THE SECOND QUESTIONNAIRE DURING BASIC TRAINING IN FEBRUARY AND JULY 2001

At first, mark your personal code

1. Date of answering the questionnaire

Use one of these alternatives to answer the next questions:
    A = Poorly; B = Fairly poorly; C = I am not sure; D = Fairly well; E = Well

2. I have adjusted to dormitory accommodation
3. I can adjust to being around people I do not know
4. I normally adjust to a new environment
5. I have adjusted to using weapons and explosives
6. I have adjusted to military discipline (orders, commanding and obeying)
7. I have adjusted to being away from my family
8. I have adjusted to being away form my friends
9. I get along with my barrack mates / squad
10. My health corresponds to the demands of military service
11. I have adjusted to military service
12. I have adjusted to rush and strict timetable
13. I have adjusted to waking up early (approximately 6 a.m.)

14. I can cope with the physical demands of military service
15. I cope with the mental pressure of conscript training

Use one of these alternatives to answer the next questions:

A = Totally agree; B = Partly agree; C = Difficult to say; D = Partly disagree; E = Totally disagree

16. Military service is useless and unnecessary
17. Very small and sometimes also unimportant things make me nervous or tense
18. I often feel depressed
19. I have been hazed in the military
20. I have had suicidal thoughts
21. I have often felt that life is not worth living
22. I am often anxious and tense
23. If I could live my life all over again, I would do almost everything differently
24. Discipline during the training is too strict
25. Military service has had a negative impact on my civil relationships
26. Belonging to a squad or a group feels pressing
27. I am not interested in military service
28. I have considered applying for unarmed service
29. I cannot stand being ordered around and commanded
30. I have considered dropping out of service
31. I do not feel a part of this society (system)
32. Individuals should not be fitted into one mold
33. I usually do not share my thoughts with other people
34. I feel uncomfortable with other people

Use one of these alternatives to answer the next questions:

A = Totally disagree; B = Partly disagree; C = Difficult to say; D = Partly agree; E = Totally agree

35. I am highly motivated to complete my military service
36. If Finland is attacked, Finns must defend themselves with arms in all circumstances, no matter what the end result
37. All men should carry out military service as a part of total defense
38. It is easy for me to obey given orders
39. Getting a military training is important and significant to me
40. I want to learn the things that are taught thoroughly
41. I am willing to participate in training that is intellectually demanding
42. To me it is important to do well in the army
43. I am interested in occupations in the field of security
44. I am healthy and my physical health is better than in my age group in general
45. I was admitted to the brigade (unit) that I had wished for in advance
46. It is easy for me to make new friends
47. I have been getting along well with my closest conscript superior (corporal, reserve cadet officer)
48. My current squad has a really good esprit de corps
49. I feel at home in military service
50. My personal contribution to military service is important
51. An explicit chain of command promotes action in the army

52. I have tried to do my best in the training
53. Military service is every male citizen's duty
54. I am very willing to help other members of my squad / barrack mates

Use one of these alternatives to answer the next questions: A = Yes / B = No

55. During the military service I have had quarrels at home
56. ...little or no money
57. ...disease or injury
58. ...sleeping disorders (broken sleep/trouble falling asleep/waking up too early)
59. ...quarrels with my girlfriend / boyfriend or with my wife / husband
60. ...a relationship that ended
61. Instructors or doctors should have more time to talk about things (like the ones in this survey):
    A = Totally agree; B = Partly agree; C = Difficult to say; D = Partly disagree; E = Totally disagree
62. I drink alcohol: A = Not at all; B = Once a month or a few times a year; C = 2-3 times a month; D = Once a week; E = 2 times a week or more often
63. Which of the following factors has decreased your service motivation most?
    A. Training for recruits; B. Ordered tasks; C. Some instructors; D. Some conscript supervisors; E. Rush and tight timetables; F. Some barrack mates and life in a community; G. Lack of connections to home, friends and girl/boyfriend; H. Personal civilian things (economical problems); I. My motivation has not decreased
64. I have been dating for: A = I am not dating; B = Less than a month; C = 1-3 months; D = 3-6 months; E = 6-12 months; F = Over a year
65. I would like to have the following military service and period of service: A = 180 days, no matter what instruction; B = 180 days, certain instruction; C = 270 days; D = 362 day, rank and file; E = 362 days, squad leader; F = 362 days, platoon commander

Use one of these alternatives to answer the next questions:
A = Totally disagree; B = Partly disagree; C = Difficult to say; D = Partly agree; E = Totally agree

66. I received enough information about military service in advance (exercises, leaves, etc.)
67. The training has been challenging and interesting
68. In my squad I get help when I need it
69. The nearest instructor has been really interested in and enthusiastic about training
70. My platoon has a good esprit de corps
71. My squad underlines common values
72. During a crisis the life of a subordinate may depend on the ability of the superior. During a crisis I would like to work under my current conscript superior
73. During a crisis the life of a subordinate may depend on the ability of the superior. During a crisis I would like to work under my current instructor
74. I feel appreciated in my squad / barrack room
75. There are plenty of leisure time activities in the garrison
76. The squad to which I belong would do well in real combat
77. The platoon I belong to would do well in real combat
78. My squad / barrack room feels responsible for succeeding as a team
79. In case of war, I would like to be in my current squad

Use one of these alternatives to answer the next questions:
A = Totally disagree; B = Partly disagree; C = Difficult to say; D = Partly agree, E = Totally agree

80. My friends in military service have helped me significantly in adjusting to military life
81. I would like to participate in refresher training in a couple of years
82. I can influence the decisions made in my barrack room / squad
83. On part of the regular staff there has been no action that could be classified as degrading
84. On part of the conscript superiors there has been no action that could be classified as degrading
85. At war, the life of a soldier may depend on the friends nearby. At war my squad members would help me even if it might put them in danger
86. The atmosphere in my company / battery is good
87. The restrictions of freedom in military life have not affected my mood
88. I have a friend in the army to whom I can talk about anything (personal)
89. I spend almost all of my free time (evening leaves etc.) with my squad / barrack friends

Use one of these alternatives to answer the next questions: A = Totally agree; B = Partly agree; C = Difficult to say; D = Partly disagree; E = Totally disagree

90. I have applied for exemption from field exercise even though I was not ill
91. Other conscripts laugh at my failures
92. I have had nightmares about conscript service
93. My fellow conscripts have pressured me mentally or physically
94. I have felt different from my fellow conscripts
95. I have applied for exemptions from the medical officer or doctor, because I could not care less about participating in military service
96. My situation in civilian life has deteriorated during my time in the army
97. The last two weeks have been too busy
98. It annoys me that as a conscript I have to compromise over my personal comfort
99. How efficiently have you been trained for war / crisis (use school grading)?
A = 4; B = 5; C = 6; D = 7; E = 8; F = 9; G = 10

Check that your last answer is in slot 99.

Thank you for your responses and good luck for the rest of your service!

3. THE THIRD QUESTIONNAIRE AT THE END OF THE SERVICE

At first, mark your personal code

1. Date of answering the questionnaire
2.-3. Number of company or battery
4. Platoon
5. Squad
6. Rank: A = Private; B = Lance corporal; C = Warrant officer student; D = Reserve officer student; E = Corporal; F = Sergeant; G = Reserve officer cadet

Use one of these alternatives to answer the next questions: A = Poorly; B = Fairly poorly; C = I cannot say; D = Fairly well; E = Well

7. I have adjusted to dormitory accommodation
8. I can adjust to being around people I do not know
9. I normally adjust to a new environment
10. I have adjusted to using weapons and explosives
11. I have adjusted to military discipline (orders, commanding and obeying)
12. I have adjusted to being away from my family
13. I have adjusted to being away from my friends
14. I get along with my barrack mates / squad
15. My health corresponds to the demands of military service
16. I have adjusted to military service
17. I have adjusted to the rush and the strict timetables
18. I have adjusted to waking up early (approximately 6 a.m.)
19. I have coped with the physical demands of military service
20. I have coped with the mental pressure of conscript training

Use one of these alternatives to answer the next questions: A = Totally agree; B = Partly agree; C = Difficult to say; D = Partly disagree; E = Totally disagree

21. Military service is useless and unnecessary
22. Very small and sometimes also unimportant things make me nervous or tense
23. I often feel depressed
24. It is easy for me to obey given orders
25. All men should carry out military service as a part of total defense
26. I was hazed in the military
27. I have had suicidal thoughts
28. Getting a military training is important and significant to me
29. I want to learn the things that are taught thoroughly
30. I have often felt that life is not worth living
31. I am often anxious and tense
32. I am willing to participate in training that is intellectually demanding
33. To me it is important to do well in the army
34. I am interested in occupations in the field of security
35. If I could live my life all over again, I would do almost everything differently
36. Discipline during the training has been too strict
37. Military service has had a negative impact on my civil relationships
38. I am healthy and my physical health is better than in my age group in general
39. Belonging to a squad or a group feels pressing
40. I am not interested in military service
41. I have considered applying for unarmed service
42. I cannot stand being ordered around and commanded
43. It is easy for me to make new friends
44. I was highly motivated to complete my military service
45. I have been getting along well with my closest conscript superior (corporal, reserve cadet officer)
46. I have considered dropping out of service
47. I have felt at home in military service
48. An explicit chain of command promotes action in the army

49. I usually do not share my thoughts with other people
50. I have felt uncomfortable with other people
51. I have tried to do my best in the training
52. Military service is every male citizen's duty
53. I am very willing to help other members of my squad / barrack mates

Use one of these alternatives to answer the next questions: A = Yes / B = No

54. During the military service I have had quarrels at home
55. ...little or no money
56. ...disease or injury
57. ...sleeping disorders (broken sleep/trouble falling asleep/waking up too early
58. ...quarrels with my girlfriend / boyfriend or with my wife / husband
59. ...a relationship that ended
60. I drink alcohol: A = Not at all; B = Once a month or a few times a year; C = 2-3 times a month; D = Once a week; E = 2 times a week or more often
61. Which of the following factors has decreased your service motivation most? A. Training; B. Ordered tasks; C. Some instructors; D. Some conscript supervisors; E. Rush and tight timetables; F. Some barrack mates and life in a community: G. Lack of connections to home, friends and girl/boyfriend; H. Personal civilian things (economical problems); I. My motivation has not decreased
62. I have been dating for: A = I am not dating; B = Less than a month; C = 1-3 months; D = 3-6 months; E = 6-12 months; F = Over a year
63. I would have liked to have the following military service and period of service: A = 180 days, no matter what instruction; B = 180 days, certain instruction; C = 270 days; D = 362 day, rank and file; E = 362 days, squad leader; F = 362 days, platoon commander

Use one of these alternatives to answer the next questions: A = Totally agree; B = Partly agree; C = Difficult to say; D = Partly disagree; E = Totally disagree

64. It annoys me that as a conscript I had to compromise over my personal comfort
65. My physical health has deteriorated during military service
66. I did not want to work hard in the military service
67. Due to military service I can take other people into consideration as well
68. In the army I got used to waking up early
69. Strict discipline belongs to the army
70. The training has been challenging and interesting
71. In my squad I got help when I needed it
72. My mental stamina has improved considerably during military service
73. The nearest instructor has been really interested in and enthusiastic about training
74. I have applied for exemption from field exercise even though I was not ill
75. Other conscripts have laughed at my failures
76. My platoon has a good esprit de corps
77. My squad underlines common values
78. I have felt appreciated in my squad / barrack room
79. I have been able to influence the decisions made in my barrack room / squad
80. The rules and restrictions of the army have been an educational experience
81. I have had nightmares about conscript service

82. My fellow conscripts have pressured me mentally or physically
83. My independence has increased during military service
84. The atmosphere in my company / battery is good
85. The restrictions of freedom in military life have not affected my mood
86. I have a friend in the army to whom I can talk about anything (personal)
87. In the army I have learned to take responsibility for myself and others
88. I have spent almost all of my free time (evening leaves etc.) with my squad / barrack friends
89. My situation in civilian life has deteriorated during my time in the army
90. The last two weeks have been too busy
91. After basic training I received the training I wished for
92. I have a character suitable for the military
93. I have made some real friends in the army
94. I would like to participate in refresher training in a couple of years
95. I have felt different from my fellow conscripts
96. The army has taught me self-control
97. I am proud of my unit (company / battery)
98. My friends in military service have helped me significantly in adjusting to military life
99. During my time in the army, I have learned to organize my schedule
100. I have applied for exemptions from the medical officer or doctor, because I could not care less about participating in military service
101. In the mornings the wake-up call should be later
102. The rush and strict timetables have considerably decreased my motivation
103. I wanted to prove to be able to complete military service
104. The army has a significant educational purpose
105. How efficiently have you been trained for war/crisis: A = 4; B = 5; C = 6; D = 7; E = 8; F = 9; G =10

Check that your last answer is in slot 105!

Thank you for your responses!

4. THE OFFICIAL MILITARY QUESTIONNAIRE AT THE END OF SERVICE

1. This questionnaire was filled at....
2. What is your rank and military occupation? A = rank and file, 6 months; B = rank and file, 9 months; C = rank and file, 12 months; D = squad leader; E = reserve officer candidate
3. – 9. The brigade, battalion, and unit you have served in

In statements 10 – 85 the alternatives for answering are A = Totally agree; B = Partly agree; C = Difficult to say; D = Partly disagree; E = Totally disagree

10. If Finland is attacked, Finns must defend themselves with arms in all circumstances, no matter what the end result
11. If Finland is attacked, I am ready to participate in military national defense as part of national service duties
12. Finland has to have functioning Defence Forces
13. I would have joined the military if serving had been on a voluntary basis

14. The military training I have received is important
15. I wanted to do as well as possible in my military service
16. The daily allowance, (paid) trips to home, and other benefits have been sufficient.
17. The training has included a lot of challenging exercises
18. In training, one must think a lot
19. During the training my squad has been allowed to try out ideas and solutions
20. During the training I have been allowed to try out my own ideas and solutions
21. At the beginning of the training I was clearly told of the training goals
22. I have been aware of whether I have achieved the goals of training
23. Although many things have to be learnt to perform automatically, training has contained all too much repetition of the same things
24. The training facilities have been appropriate
25. The training methods have been appropriate for the skills in question
26. In training, the weapons and equipment used in training have been appropriate and functional
27. Generally, the field practices were organized effectively
28. The daily program was usually organized effectively
29. The field exercises were usually interesting
30. After the training, an instructor told my squad how well we performed
31. I have been informed how well I have done in training
32. After the training, we were told what went well and what did not
33. The instructor's feedback has helped me to understand how to perform
34. After the basic training period, I have been aware of how I have done in the training compared to others
35. The squad to which I belong would do well in real combat
36. The platoon I belong to would do well in real combat
37. The weapons which have been used in training would be effective in a real combat situation
38. I have a clear picture of my duty during war
39. On the basis of my training I could do my duty during war
40. The training has given me the mental skills for battle situations
41. In all circumstances, I have mastered the necessary weapons and equipment needed to do my duty
42. On the basis of my physical condition I could get through two weeks of battles and three to four days and nights of decisive battle
43. On the basis of my mental health I could get through two weeks of battles and three to four days and nights of decisive battle
44. My squad leader has dealt fairly and straightforwardly with me
45. During field practice my squad leader has set an example and often tried his or her hardest
46. On the whole my squad leader is a good person
47. My squad leader masters his or her duties (weapons, equipment, and management)
48. During a crisis I would like to work with my current squad leader
49. My platoon leader has dealt fairly and straightforwardly with me
50. During field practice my platoon leader has set an example and often tried his or her hardest
51. On the whole my platoon leader is a good person
52. My platoon leader masters his or her duties (weapons, equipment, and management)
53. During a crisis I would like to work under my (conscript) platoon leader
54. My closest instructor masters his or her duties (weapons, equipment, and management)

55. My closest instructor has dealt fairly and straightforwardly with me
56. During a crisis I would like to work under my current instructor
57. There is at least one person in the permanent staff, with whom I could talk about personal things if needed
58. At field exercises, my instructor has set an example and exerted all his/her energy
59. My current squad has a really good esprit de corps
60. At war my squad members would help me even if it might put them in danger
61. In case of war, I would like to be in my current squad
62. I would have liked to test my limits in even harder exercises
63. There has been at least one really tough field exercise, where my physical performance was tested
64. There has been at least one really tough field exercise, where my mental toughness was tested
65. The conscript service has been physically too tough for me
66. The conscript service has been mentally too tough for me
67. I would have liked to receive training about things that cause stress in combat and how it can be endured
68. The physical training I received was varied
69. The training took into account factors related to recovery after physically demanding exercises
70. I have the skills and knowledge required for maintaining a soldier's physical performance
71. The physical exertion of conscript training showed an upward trend
72. The conscript service strengthened or inspired a lasting interest in exercising, which will continue after the service
73. The physical training program took into account the individual differences of the trainees
74. The clothing has been adequate and appropriate
75. I believe that the provided outfits fulfill also wartime requirements
76. The change and care of clothing items has been well organized
77. The instructions and training I have received concerning the use and care of clothing have been adequate
78. I have experienced some really interesting and exciting events / moments during my conscript service
79. I will have some very positive memories of my conscript service
80. Conscript service has given me more self-confidence
81. I have learned new things about myself during conscript service
82. I have received information about jobs in the Defence Forces (both military and civilian work)
83. I would consider working in the Defence Forces after my conscript service
84. My conscript-service experiences have increased my interest in staying in the service of the Defence Forces
85. In my view the Defence Forces would be a good employer
86. How many times have you been subject to hazing? A = not at all; B = once; C = twice; D = a couple of times; E = quite often or often; F = I am not sure, because I do not know exactly what hazing or bullying means in this case
87. If you have been hazed, the perpetrator was... A = a conscript of the older contingent; B = squad leader; C = reserve officer candidate; D = permanent staff / instructor; E = I was not hazed
88. Have you had the same group leader for the whole time after basic training? A = I have had the same squad leader; B = the squad leader has been changed

89. Has the group you were put in after basic training stayed the same? A = it has remained the same; B = 1-2 men have been changed; C = 3 men have been changed; D = more than 3 men have been changed or I am in a different squad than in the beginning
90. Give an appraisal to the Defence Forces about the training you have received after the basic training period for your wartime duty: A = excellent; B = good; C = satisfactory; D = pass; E = poor

Only those who were trained as leaders continue answering to statements 91 – 112.

In statements of 91 – 109 the alternatives for answering are: A = Totally agree; B = Partly agree; C = Difficult to say; D = Partly disagree; E = Totally disagree

91. I understood the goals and objectives of leadership and instructor training
92. The warrant officer course or the reserve officer course provided sufficient qualifications for training [subordinates in] soldiers' basic skills and knowledge
93. The warrant officer course or the reserve officer course provided sufficient qualifications for acting in my wartime leader position
94. A plan of action (leadership performance and further education) was created for me for my leadership period
95. I had enough time to prepare for my leadership and training duties
96. My instructor was able to train me to take initiative and be a self-directed leader
97. I was allowed to fulfill myself when leading and training my subordinates
98. My leader profile was made by using the deep leadership questionnaire at least once during my leadership period
99. I have tried to develop my leadership behavior based on the feedback provided in my leadership profile
100. I received enough direct feedback about my leadership performance from my instructor
101. I got enough written feedback which I can include in my leadership file
102. I actively gathered feedback and I usually made a (written) self-appraisal before the discussion with my instructor
103. I have maintained my own leadership file
104. Leadership and instructor training has made me think of my values and attitudes
105. I have grown as a person and a leader during conscript service
106. I believe that I am able to utilize my military leadership education in civilian life
107. Because of my leadership training and experience during conscript service, I will continue developing my own leadership skills in civilian life
108. I participated at least twice a month in conscript leaders' teamwork in my unit
109. My unit commander took account of the ideas which were created by teamwork among conscript leaders
110. I had training duties during my leadership period: A = constantly (dozens); B = often (15 - 20 times); C = every now and then (7 - 14 times); D = seldom (1 - 6 times); E = not at all
111. I had relatively independent leadership duties during my leadership period: A = constantly (dozens); B = often (15 - 20 times); C = every now and then (7 - 14 times); D = seldom (1 - 6 times); E = not at all
112. I appraise the received leadership training as a whole on the level of... A = excellent; B = good; C = satisfactory; D = pass; E = poor

Thank you for your responses!

APPENDIX 2

Table *The Main Factors of the Questionnaires at the End of Service*

	Factors																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Social, Physical, and Overall Adjustment: I can adjust to being around people I do not know	**.8**																						
I have adjusted to dormitory accommodation	.7																						
I normally adjust to a new environment	.7																						
I have adjusted to military service	.7																						
I have coped with the mental pressure of conscript training	**.6**																						
I get along with my barrack mates / squad	**.6**		.3																				
I have adjusted to being away from my family	**.6**																						
My health has corresponded to the demands of military service	**.6**																						
I have adjusted to the rush and the strict timetables	**.6**							.4															
I have adjusted to being away from my friends	**.6**																				.4		
I have adjusted to military discipline	**.6**							.3															
I have coped with the physical demands of military service	**.5**																						
Personal Growth During Service: In the army I have learned to take responsibility for myself and others		**.7**																					
The army has taught me self-control		**.6**																					
My mental stamina has improved considerably during military service		**.6**																					
During my time in the army, I have learned to organize my schedule		**.6**																					
My independence has increased during military service		**.6**																					
The rules and restrictions of the army have been an educational experience		**.6**																					
The army has a significant educational purpose		**.6**																					
Due to military service I can take other people in to consideration as well		**.6**																					
I have experienced some really interesting and exciting events / moments during my conscript service		.4																					
I will have some very positive memories from my conscript service		.3																					
How effectively have you been trained for war / crisis		.3																					

Table (continued)

| | | |

Table (continued)

On the whole my ***Squad Leader*** is a good person			**.8**				
My squad leader masters his or her duties			·7				
During a crisis I would like to work with my current squad leader			·7				
During field practice my squad leader has set an example and often tried his or her hardest			**.6**				
My squad leader has dealt fairly and straightforwardly with me			**.6**				
Adjustment to Regimentation: The rush and strict timetable have considerably decreased my motivation				**.6**			
In the mornings the wake up should be later				**·5**			
Discipline during the training is too strict				**·4**			
It annoys me that as a conscript I have to compromise over my personal comfort				**·4**			
The last two week have been too busy				**·4**			
An explicit chain of command promotes action in the army				·3			
Commitment / Institutional Bonding: Military service is every male citizen's duty					**.6**		·4
All men should carry out military service as a part of total defense					**·5**		·3
To me it is important to do well in the army	·3				**·5**		
I have considered applying for civilian service		·4			**·5**		
Getting military training is important and significant to me	·3				**·5**		
Military service is useless and unnecessary					**·4**		
I am not interested in military service				·3	**·4**		
Career Intentions: I would consider working in the Defence Forces after my conscript service						**.8**	
My conscript-service experiences have increased my interest for staying in the service of the Defence Forces						**.8**	
In my view the Defence Forces would be a good employer						**·7**	
Quality of Training: In training, the weapons and equipment used in the training have been appropriate and functional							**.6**
The training methods have been appropriate for skills trained							**.6**
Generally, the field practices were organized effectively							**·5**
The training facilities have been appropriate							**·5**
The daily program was usually organized effectively							**·5**

Table (continued)

| | | |

Table (continued)

Allowed to Think: During the training I have been allowed to try out my own ideas and solutions																		**.8**					
During the training my squad has been allowed to try out ideas and solutions																		.7					
Malingering: I have applied for exemptions, because I could not care less about participating in military service																			.7				
I have applied for exemption from field exercise even though I was not ill																			.7				
Rated Individual Performance: Wartime field proficiency																				.7			
Overall estimation of military performance																				.7			
Service Impact: Military service has had a negative impact on my civil relationships																					.6		
My situation in civilian life has deteriorated during my time in the army																					.5		
Experienced Hazing: My fellow conscripts have pressured me mentally or physically																						.5	
Other conscripts have laughed at my failure																						.4	
Variance explained (%)	5.7	4.8	3.7	3.3	3.2	3.0	2.8	2.6	2.2	2.1	2.1	2.0	1.9	1.7	1.6	1.6	1.3	1.3	1.2	1.2	1.1	0.9	0.7
Factors	1	2	3	4	5	6	7	8	9	11	11	12	13	14	15	16	17	18	19	20	21	22	23

Note. n = 1,523. Principal axis factoring with varimax rotation. Rotation converged in 11 iterations. KMO = .95. Total variance explained = 52.0 %.

SOCIAL PSYCHOLOGY

Mikael Salo examines one of the key concepts of group dynamics and organizational psychology, cohesion. He traces its history and vicissitudes, and shows its importance in understanding phenomena such as leader effectiveness and group performance. Salo scrutinizes the various dimensions of cohesiveness and constructs a comprehensive general model. Although the empirical part of the study focuses on the dynamics of cohesion in military units, the results should have wide applicability in all kinds of organizations. The pre-examiners characterize this study as “one of the most extensive reviews of the literature on cohesion in existence” which “serves as a comprehensive primer in group cohesion generally, and more specifically, to the military.”

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